

ROPE AND CORDAGE

General Catalogue



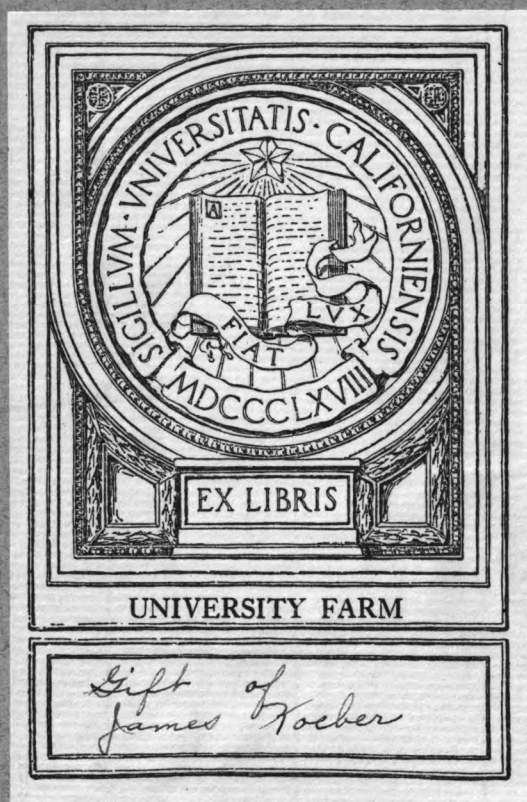
PLYMOUTH CORDAGE COMPANY
NORTH PLYMOUTH, MASS., AND WELLAND, CANADA

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Since 1824

PLYMOUTH

"The Rope You Can Trust"

GENERAL
CATALOGUE

Descriptive of all Manila, Sisal
and Hemp Cordage products
regularly made by the PLYMOUTH
CORDAGE COMPANY bearing the
well-known SHIP trade-mark.



PLYMOUTH CORDAGE COMPANY
North Plymouth, Mass. Welland, Canada

1919

Distributors in all large cities

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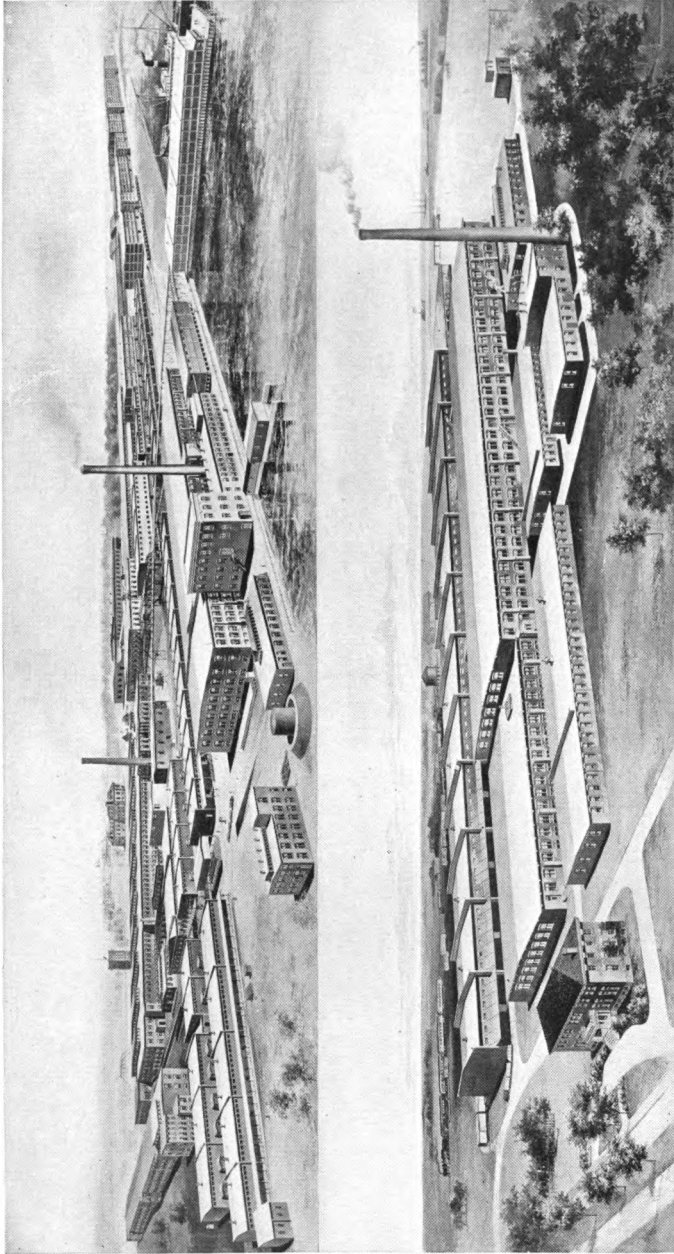
THE UNIVERSITY PRESS, CAMBRIDGE, MASS.

Foreword

IN issuing this general catalogue, it has been our aim to bring together, in convenient form for reference, such information as will make clear to buyers the distinguishing characteristics of the different kinds of Plymouth Cordage. This should enable them to determine more readily, and to secure promptly, the kinds best adapted to their various needs.

Each product described herein bears the workmanship of America's oldest and largest rope-making organization. Each is made under a fixed policy of first-quality goods only; each represents the uniform result of an unequaled supply of raw materials, handled intelligently, and worked by experts on specially developed, modern machines — a manufacturing standard, equipment and power without equal in the rope industry.

These things are your guarantee of the superior quality of Plymouth Cordage.



FACTORIES OF THE PLYMOUTH CORDAGE COMPANY
North Plymouth, Mass., and Welland, Canada

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Cordage Terms and Definitions



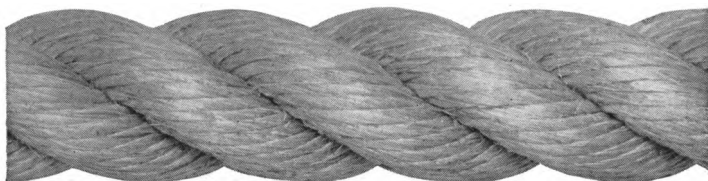
YARN (or thread):

A number of fibers twisted together. This twist is usually made right-hand, but, if required, can be made left-hand.



STRAND:

Two or more yarns twisted together. This twist is in the opposite direction to the twist in the yarns.



PLAIN-LAID ROPE:

Three, four or six strands twisted together in the opposite direction to the twist in the strands, so that one twist offsets the other, making the strands hold together.



CABLE, HAWSER-LAID OR WATER-LAID ROPE:

Three—sometimes four—plain-laid three-strand ropes twisted together in the opposite direction to the twists in the ropes. This rope has somewhat less tensile strength than a plain-laid rope of equal diameter but is more elastic, stands greater surface wear and is therefore superior for certain purposes.

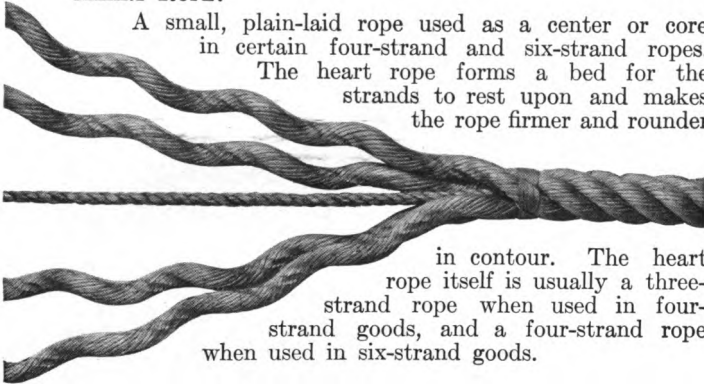
Cordage Terms and Definitions

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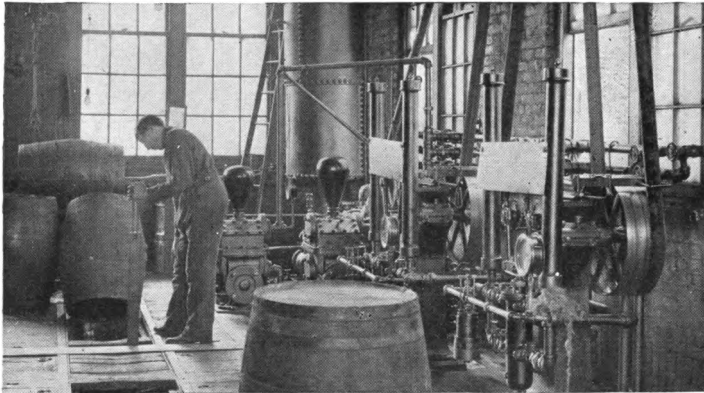
HEART ROPE:

A small, plain-laid rope used as a center or core in certain four-strand and six-strand ropes.

The heart rope forms a bed for the strands to rest upon and makes the rope firmer and rounder



in contour. The heart rope itself is usually a three-strand rope when used in four-strand goods, and a four-strand rope when used in six-strand goods.



OIL:

Specially compounded oil is used to lubricate and make more workable the fiber entering into most ropes made from so-called hard fibers — namely, Manila, Sisal and New Zealand. This oil also acts as a preservative.

The goods described in this catalogue are always furnished oiled unless descriptions otherwise indicate.

CORDED:

A term indicating two or three yarns twisted together, additional twist being put into the yarns during the process in an opposite direction to the turn in the cord.

Cordage Terms and Definitions

(Continued)

LAY:

The term used to designate the amount of twist put into the rope; *i. e.*, the angle of the strands in the rope and the thread in the strands, usually expressed as hard-lay, common or regular lay, soft-lay, bolt rope, sailmaker's lay. Other variations are often made in rope required for special work. Generally speaking, the softer the lay, the stronger the rope. A hard-laid rope has greater firmness and resistance to abrasive wear. In a soft-laid rope the wearing qualities are sacrificed to ease in handling, whereas in a hard-laid rope strength is often sacrificed to utility. In all cases the use of a rope should govern the lay.

HAWSER:

Any rope 5" in circumference and above that is used for towing is designated as a Hawser and may be plain-laid or hawser-laid.

A Cable is designated as hawser-laid, being made from three right-laid ropes.

FATHOM:

Six feet.

COIL:

Standard length, unless otherwise designated, 200 fathoms (1200 feet).

HALF COIL:

Standard length, unless otherwise designated, 100 fathoms (600 feet).

YARDAGE:

Length per unit of weight.

RIGHT-LAID ROPE:

Rope in which the strands are twisted together in the opposite direction to the movement of a clock's hands.

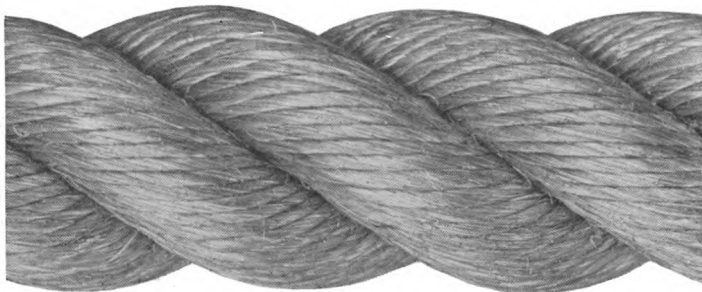
Unless otherwise indicated, plain-laid ropes described in this catalogue are right-laid.

LEFT-LAID ROPE:

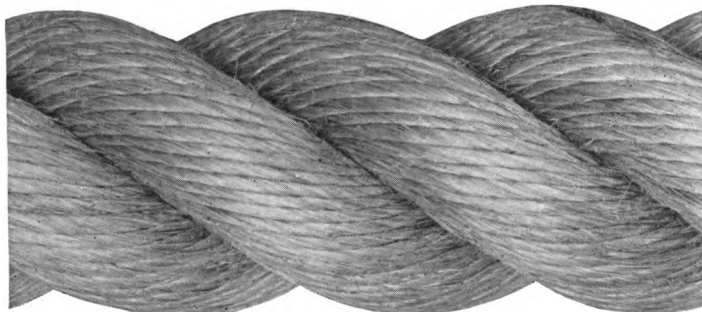
Rope in which the strands are twisted together in the same direction as the movement of a clock's hands.

Cordage Terms and Definitions

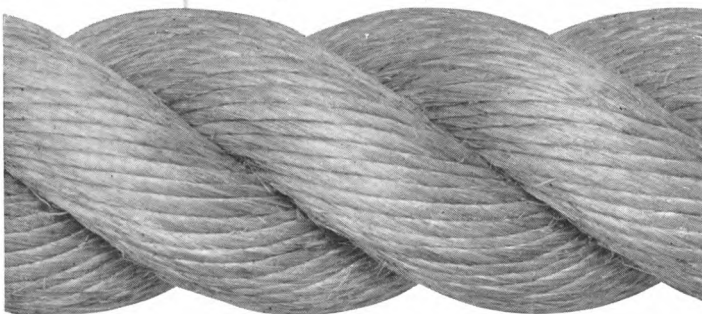
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SOFT-LAID ROPE



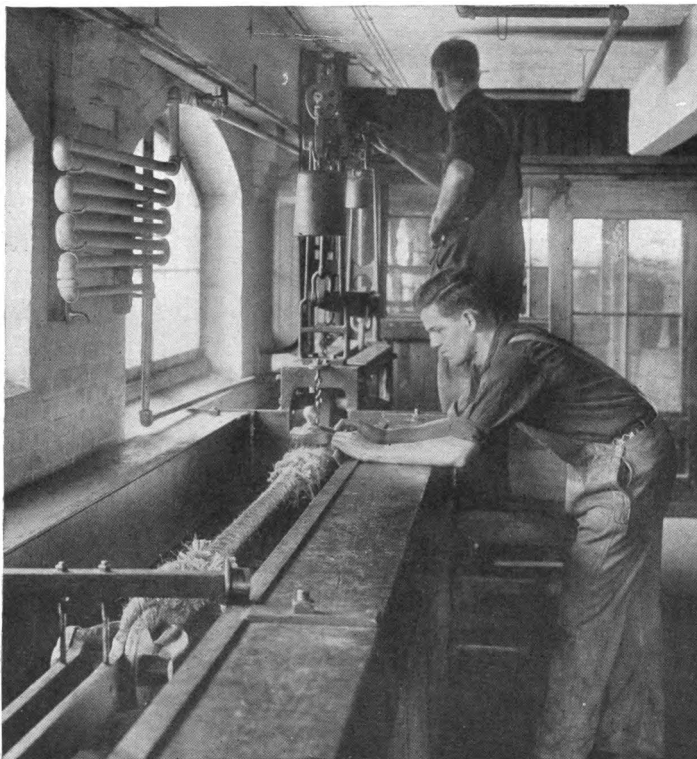
COMMON-LAID ROPE



HARD-LAID ROPE

Cordage Terms and Definitions

(Continued)



LABORATORY ROPE-TESTING MACHINE, PLYMOUTH CORDAGE COMPANY

BREAKING STRENGTH:

The strength of a rope as determined by a testing machine in the laboratory is of great value as it gives us a basis to use in comparing ropes of different makes, lays and qualities.

The conditions of testing, such as a perfectly straight, slow pull, which must of necessity obtain, are almost never duplicated in actual use, and, therefore, it is important that in determining a working load liberal allowances for sudden strains, bending, etc., be made.

The method of holding the rope specimen in the testing machine must receive very careful consideration, as it is very difficult, in fact almost impossible, to fasten a rope so that the maximum strength of the rope is reached.

Fibers and Prices

MANILA FIBER long ago established itself as the best material for rope-making where strength and durability are the prime requirements. In length, color, strength and wearing qualities it is superior to all other fibers commonly used where the requirements are not so high. Unless otherwise indicated, the term "Sisal" where used in this catalogue means the Mexican white Sisal or henequen.

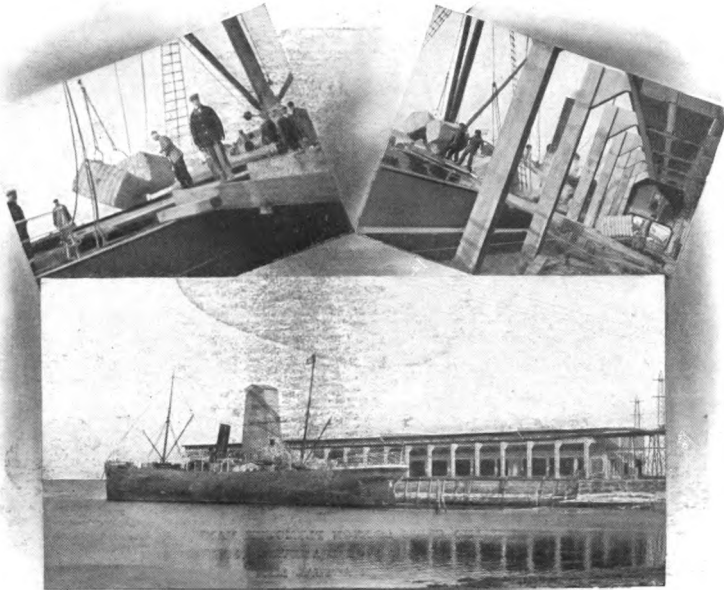


1. MANILA FIBER
2. RUSSIAN HEMP
3. MEXICAN SISAL

4. AMERICAN HEMP
5. ITALIAN HEMP
6. NEW ZEALAND HEMP

Fibers and Prices

(Continued)



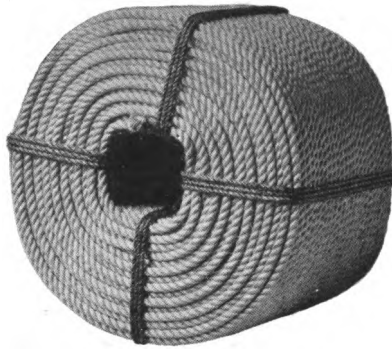
CARGO OF SISAL FIBER BEING DELIVERED FROM PROGRESSO, MEXICO,
TO DOCKS OF PLYMOUTH CORDAGE COMPANY

The term "Hemp," used in descriptions of Plymouth Hemp Cordage, means the class of fibers comprised of American Hemp, Russian Hemp and Italian Hemp — these three fibers being alike in all essential qualities. Selections of various grades of hemp are carefully made to suit the purpose for which the finished goods are intended.

Basis prices and price differentials on goods described herein are shown on current price lists. As often as changes in prices take place, price lists will be supplied to all holders of this catalogue. Lists are likewise obtainable upon request.

Plymouth Manila Rope

Three-Strand



COIL, SECTION AND CROSS SECTION PLYMOUTH MANILA ROPE,
THREE-STRAND, ONE-HALF INCH DIAMETER. SECTION AND
CROSS SECTION ACTUAL SIZE

RECOMMENDED for all work not calling for goods of special construction, stock or lay. (See table of contents and descriptions on following pages.)

Furnished on all orders which specify simply "Manila" or "Manila three-strand." (If you want special goods, please say so; if you are not sure, please state the work for which the rope is wanted.)

Made from Manila fiber of high quality. Has ample strength and durability for all general purposes. (For use in towing, see page 28.) Sometimes furnished for marine wrecking work (see page 30).

Ordinarily used in right-laid and untarred forms, but can be furnished left-laid or tarred when desired.

The lay is our "regular" lay — soft enough for easy handling and splicing, yet firm enough to preserve the rope's shape.

Plymouth Manila Rope

Three-Strand—(Continued)

PUT up in full coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet), except 6-, 9- and 12-thread, which are put up in coils of 50 and 25 pounds.

Approximate Gross Weight and Strength Common Lay
Three-Strand Plymouth Manila Rope

NAME AND SIZE IN CIR- CUMFERENCE	APPROX. DIAMETER	LENGTH AND WEIGHT STANDARD COIL		MINIMUM TENSILE STRENGTH NEW MANILA ROPE, LABO- RATORY TEST	LENGTH OF ROPE IN ONE POUND
		FEET	POUNDS		
6 thd. $\frac{3}{16}$ "	$\frac{3}{16}$ in.	3,333	50	480	66 ft. 8 in
6 thd. $\frac{3}{4}$ "	$\frac{1}{4}$ "	2,750	50	620	55 "
9 thd. 1"	$\frac{5}{16}$ "	1,820	50	1,000	36 " 4 "
12 thd. $1\frac{1}{8}$ "	$\frac{3}{8}$ "	1,350	50	1,275	27 "
15 thd. $1\frac{1}{32}$ "	$\frac{13}{32}$ "	1,200	50	1,600	24 "
$1\frac{1}{4}$ in.	$\frac{7}{16}$ "	1,200	65	1,750	18 " 6 "
$1\frac{3}{8}$ "	$\frac{15}{32}$ "	1,200	75	2,100	16 "
$1\frac{1}{2}$ "	$\frac{1}{2}$ "	1,200	90	2,450	13 " 4 "
$1\frac{3}{4}$ "	$\frac{9}{16}$ "	1,200	125	3,150	9 " 7 "
2 "	$\frac{5}{8}$ "	1,200	160	4,000	7 " 6 "
$2\frac{1}{4}$ "	$\frac{3}{4}$ "	1,200	198	4,900	6 " 1 "
$2\frac{1}{2}$ "	$\frac{13}{16}$ "	1,200	234	5,900	5 " 1 "
$2\frac{3}{4}$ "	$\frac{7}{8}$ "	1,200	270	7,000	4 " 5 "
3 "	1 "	1,200	324	8,200	3 " 8 "
$3\frac{1}{4}$ "	$1\frac{1}{16}$ "	1,200	378	9,500	3 " 2 "
$3\frac{1}{2}$ "	$1\frac{1}{8}$ "	1,200	432	11,000	2 " 9 "
$3\frac{3}{4}$ "	$1\frac{1}{4}$ "	1,200	504	12,500	2 " 5 "
4 "	$1\frac{3}{16}$ "	1,200	576	14,200	2 " 1 "
$4\frac{1}{4}$ "	$1\frac{3}{8}$ "	1,200	648	16,000	1 " 10 "
$4\frac{1}{2}$ "	$1\frac{1}{2}$ "	1,200	720	17,500	1 " 8 "
$4\frac{3}{4}$ "	$1\frac{5}{16}$ "	1,200	810	19,500	1 " 6 "
5 "	$1\frac{5}{8}$ "	1,200	900	21,500	1 " 4 "
$5\frac{1}{2}$ "	$1\frac{3}{4}$ "	1,200	1,080	25,500	1 " 1 "
6 "	2 "	1,200	1,296	30,000	11 "
$6\frac{1}{2}$ "	$2\frac{1}{8}$ "	1,200	1,512	34,000	$9\frac{1}{2}$ "
7 "	$2\frac{1}{4}$ "	1,200	1,764	38,500	8 "
$7\frac{1}{2}$ "	$2\frac{1}{2}$ "	1,200	2,016	43,500	7 "
8 "	$2\frac{5}{8}$ "	1,200	2,304	49,000	$6\frac{1}{4}$ "
$8\frac{1}{2}$ "	$2\frac{7}{8}$ "	1,200	2,590	55,000	$5\frac{1}{2}$ "
9 "	3 "	1,200	2,915	61,000	5 "
$9\frac{1}{2}$ "	$3\frac{1}{8}$ "	1,200	3,240	67,000	$4\frac{1}{2}$ "
10 "	$3\frac{1}{4}$ "	1,200	3,600	73,000	4 "

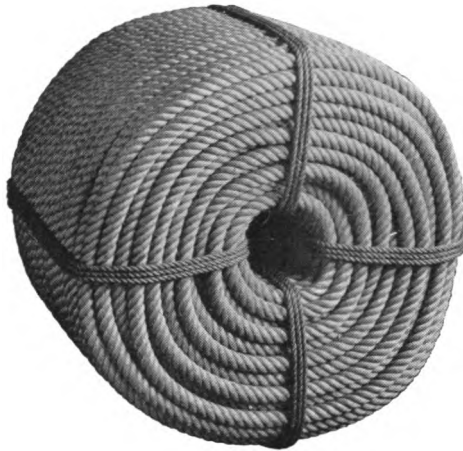
Plymouth Manila Rope

Four-Strand



SECTION PLYMOUTH MANILA ROPE, FOUR-STRAND WITHOUT HEART,
THREE-FOURTHS INCH DIAMETER, ONE-HALF ACTUAL SIZE

CROSS SECTION
PLYMOUTH MANILA
ROPE, FOUR-STRAND
WITHOUT HEART,
THREE-FOURTHS
INCH DIAMETER,
ONE-HALF ACTUAL
SIZE



CROSS SECTION
PLYMOUTH MANILA
ROPE, FOUR-STRAND
WITH HEART,
THREE-FOURTHS
INCH DIAMETER,
ONE-HALF ACTUAL
SIZE

COIL PLYMOUTH MANILA ROPE, FOUR-STRAND WITH HEART,
FOUR-INCH CIRCUMFERENCE

RECOMMENDED for more common forms of sheave work as on running rigging, contracting equipment, painters' falls, haying rigs, etc. (For descriptions of special goods for uses where rope is run for long periods without resting, or where very high stress of load is met with, see pages 33, 37 and 45.

Can be had with or without a heart rope.

Made from Manila fiber of excellent quality.

Laid somewhat harder than the three-strand. Strands in contact with each other over larger area, more circular in contour. (See cross-sectional views.)

Plymouth Manila Rope

Four-Strand — (Continued)

WEARS rounder, runs more smoothly and lasts longer than three-strand on sheave work.

Difference in working strength, size for size, between three- and four-strand not very marked, but four-strand approximately 5 per cent heavier in weight. (See page 15 for figures on three-strand.)

Particularly well adapted for hay carriers or loaders. Best sizes for this work: $\frac{3}{4}$ ", $\frac{1}{2}$ ", $\frac{7}{8}$ " and 1" diameter.

Tarred form, hard laid, without heart, furnished for ships' lanyards.

Standard length of coils sizes $1\frac{1}{4}$ " circumference to $3\frac{1}{4}$ " circumference inclusive, 1200 feet; $3\frac{1}{2}$ " circumference and larger, 1150 feet.

Plymouth Manila Four-Strand with Heart

SIZE CIRCUMFERENCE	APPROXIMATE DIAMETER	LENGTH AND WEIGHT STANDARD COIL		MAX. GROSS WEIGHT PER FOOT OF ROPE
		FEET	LBS.	
$1\frac{1}{4}$ "	$\frac{7}{16}$ "	1200	63	.0525
$1\frac{1}{2}$ "	$\frac{1}{2}$ "	1200	103	.0858
$1\frac{3}{4}$ "	$\frac{9}{16}$ "	1200	136	.1133
2"	$\frac{5}{8}$ "	1200	163	.1360
$2\frac{1}{4}$ "	$\frac{3}{4}$ "	1200	197	.1642
$2\frac{1}{2}$ "	$\frac{13}{16}$ "	1200	244	.2033
$2\frac{3}{4}$ "	$\frac{7}{8}$ "	1200	287	.2391
$3\frac{1}{4}$ "	1"	1200	342	.285
$3\frac{1}{2}$ "	$1\frac{1}{16}$ "	1200	380	.3166
$3\frac{3}{4}$ "	$1\frac{1}{8}$ "	1150	444	.3860
4"	$1\frac{1}{4}$ "	1150	516	.4487
$4\frac{1}{4}$ "	$1\frac{3}{8}$ "	1150	588	.5113
$4\frac{1}{2}$ "	$1\frac{1}{2}$ "	1150	648	.5634
$4\frac{3}{4}$ "	$1\frac{5}{8}$ "	1150	726	.6313
5"	$1\frac{3}{4}$ "	1150	810	.7034
$5\frac{1}{2}$ "	$1\frac{7}{8}$ "	1150	900	.7826
6"	$2\frac{1}{4}$ "	1150	1080	.9391
$6\frac{1}{2}$ "	2"	1150	1296	1.127
$7\frac{1}{2}$ "	$2\frac{1}{2}$ "	1150	1512	1.314
$7\frac{1}{4}$ "	$2\frac{1}{4}$ "	1150	1764	1.534
$8\frac{1}{2}$ "	$2\frac{3}{4}$ "	1150	2016	1.753
8"	$2\frac{5}{8}$ "	1150	2304	2.003
$8\frac{3}{4}$ "	$2\frac{7}{8}$ "	1150	2590	2.252
9"	3"	1150	2915	2.535
$9\frac{1}{2}$ "	$3\frac{1}{4}$ "	1150	3240	2.817
10"	$3\frac{3}{4}$ "	1150	3600	3.130

Tensile strength approximately the same as for three-strand given on Plymouth weight and strength card.

Plymouth Manila Clothesline



MADE from high-grade Manila fiber. Strong, pliable and durable. Will not stain the clothes or chafe the hands.

Put up in unit hanks of 50 feet each, attractively labeled.

Hanks furnished in lots of four, connected — making possible the sale of 50-, 100-, 150- or 200-foot lengths as desired.

SIZES AND AVERAGE WEIGHT

6-thread ($\frac{1}{4}$ " diam.)	10½ lbs. per dozen hanks
6-thread fine ($\frac{3}{16}$ " diam.)	8½ lbs. per dozen hanks
3-thread laid ($\frac{3}{16}$ " diam.)	6½ lbs. per dozen hanks

Shipped, a dozen hanks to a bundle, in strong cartons holding one-half gross or six dozen hanks each. Cartons attractively labeled for shelf display.

Plymouth Manila Raft Rope



SECTION — ACTUAL SIZE — AND COIL SIX-THREAD PLYMOUTH
MANILA RAFT ROPE, SOFT-LAID

USED to bind logs together while they are being floated to mill. A three-strand rope. Made from same high quality of fiber as our regular Manila Rope.

Laid soft — handles very easily — an important requirement.

Furnished principally in 6- and 9-thread sizes.

Standard length of 6-thread 1800 ft. coils.

“ “ “ 9-thread 1200 “ “

Plymouth Manila Net Rope



SECTION — ONE-HALF ACTUAL SIZE — AND COIL PLYMOUTH
MANILA DRY NET ROPE, TWELVE-THREAD, LEFT-LAID, SOFT

THE proper product for reinforcing the edges of fishing nets. A three-strand rope. Made from the same high quality of fiber as our regular Manila Rope.

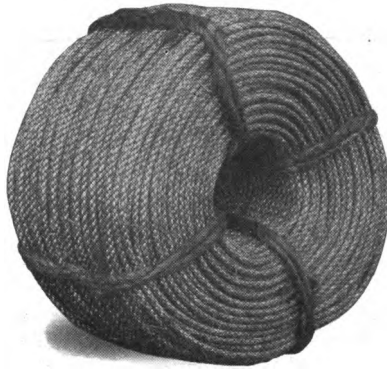
Can be had either tarred or untarred and in both right- and left-hand lays. Right lay furnished unless otherwise ordered. The two are ordinarily used in combination to prevent fouling of net.

Laid soft or extra soft as desired.

Furnished usually in sizes from 6-thread to $2\frac{3}{8}$ " circumference.

Put up, unless otherwise specified, in coils of 100 fathoms (600 feet).

Plymouth Manila Buoy Line



SECTION SIX-THREAD PLYMOUTH MANILA BUOY LINE, COMMON-LAID (TOP). SECTION AND COIL SIX-THREAD PLYMOUTH MANILA BUOY LINE, HAWSER-LAID (BOTTOM). SECTIONS ACTUAL SIZE

FOR holding buoys to lobster traps or pots. Comes both in ordinary three-strand form and lay, and in form resembling hawser-laid — *i. e.*, with yarns in each strand twisted together extra hard. The latter form, known as hawser-laid Buoy Line, will not absorb water so readily as plain-laid rope and presents greater resistance to abrasive wear.

Made from Manila fiber of excellent quality.

Can be supplied both tarred and untarred.

Known in certain localities as Pot Warp.

Sizes, 6-thread and 9-thread.

Put up in 50- and 25-pound coils.

Plymouth Manila Tent Rope



SECTION — ONE-HALF ACTUAL SIZE — AND COIL PLYMOUTH MANILA
TENT ROPE, THIRTY-THREAD, SOFT-LAID

USED to reinforce the seams and edges of tent canvases and awnings, and in the smaller sizes for guys and to secure the flies of the tent. A three-strand rope. Made from same high quality of fiber as our regular Manila Rope.

Laid soft—can be opened up very easily for sewing.

Furnished commonly in sizes from 6-thread to 24-thread.

Put up in coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet), except 6-, 9- and 12-thread which are put up in coils of 50 and 25 pounds.

Plymouth Manila Halter Rope



SECTION — ACTUAL SIZE — PLYMOUTH MANILA HALTER
ROPE, THREE-STRAND, SEVEN-SIXTEENTHS INCH DIAMETER



COIL PLYMOUTH MANILA HALTER ROPE, FOUR-STRAND,
SEVEN-SIXTEENTHS INCH DIAMETER

DESIGNED to meet the special requirements of halter manufacturers. Comes in both the three-strand and four-strand types. Made from high-grade Manila fiber.

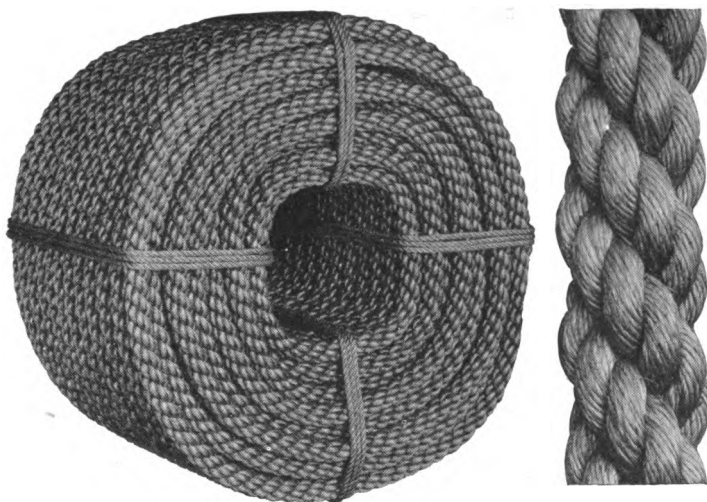
Can be had both oiled and unoiled.

Made any lay to suit conditions and demands of the trade.

Furnished usually in sizes from $\frac{3}{8}$ " to $\frac{3}{4}$ " diameter.

Put up in standard coils of 1200 feet and half coils of 600 feet.

Plymouth Manila Fishermen's Cable



COIL AND SECTION PLYMOUTH MANILA FISHERMEN'S CABLE, SEVEN INCHES CIRCUMFERENCE, TARRED. SECTION ONE-THIRD ACTUAL SIZE

FOR fishing-schooner anchor lines. A hawser-laid product with plenty of elasticity to withstand sudden strains. Made from fiber chosen especially for its strength and toughness. Possesses great wearing quality.

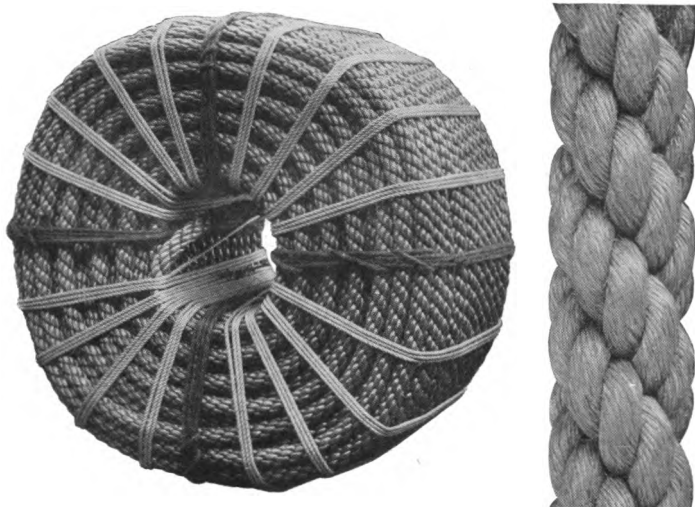
Usually treated with high-grade tar to afford special protection against the action of water. Furnished un-tarred if desired.

Sizes range from 4" to 12" circumference.

CUSTOMARY LENGTHS

60	75	90	100	120	fathoms
360	450	540	600	720	feet

Plymouth Manila Drilling Cable



COIL AND SECTION PLYMOUTH MANILA DRILLING CABLE, TWO AND ONE-
QUARTER INCHES DIAMETER. SECTION ONE-THIRD ACTUAL SIZE

THE line to which the "tools" are attached in drilling oil, gas, water and mineral exploration wells. A hawser-laid product. Has the elasticity needed in drilling work. Made from fiber chosen particularly for its strength and toughness. Possesses unusual wearing quality.

Thoroughly treated with special lubricant to afford protection against heat, dirt and the action of water.

Laid uniformly and correctly.

Can be furnished in special lengths for wells of any depth in any size from $1\frac{1}{4}$ " to $2\frac{1}{2}$ " diameter.

Plymouth Manila Sand Line

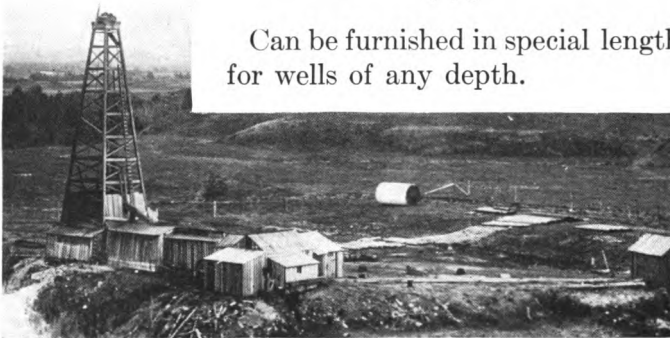


COIL PLYMOUTH MANILA SAND LINE,
THIRTEEN-SIXTEENTHS INCH DIAMETER

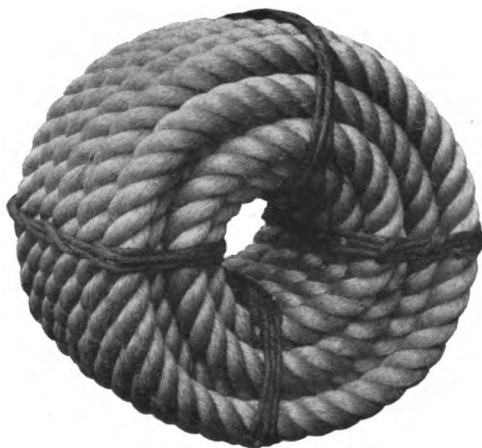
FOR lowering and hoisting the "bailer" in removing the drillings from oil, gas, water and mineral exploration wells. A hawser-laid product, identical in lay and quality of fiber with our Drilling Cable.

Common sizes, $\frac{5}{8}$ " to 1" diameter.

Can be furnished in special lengths
for wells of any depth.



Plymouth Manila Bull Rope



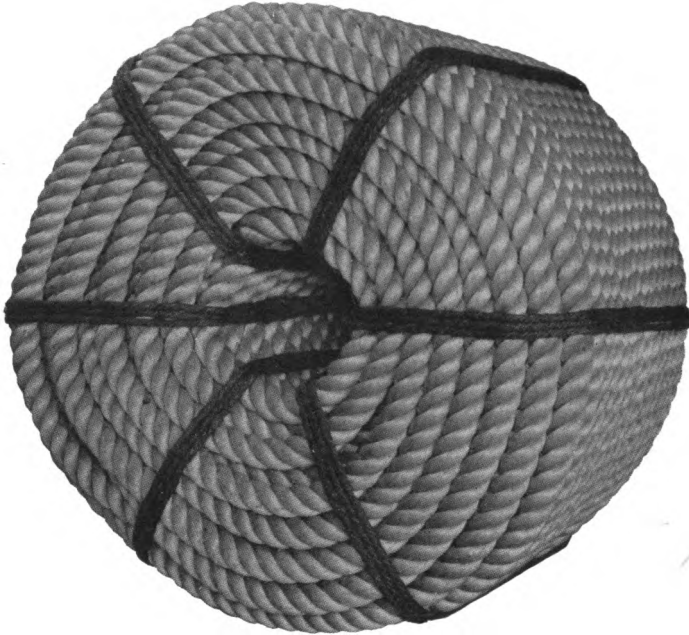
EIGHTY-FIVE-FOOT COIL PLYMOUTH MANILA BULL ROPE,
TWO AND ONE-FOURTH INCHES DIAMETER

USED as a driving rope for the bull wheel in oil-well drilling outfits. A three-strand rope. Made from the same high quality of fiber as our regular three-strand Manila Rope, but with a special lay which provides an extra good wearing surface.

Furnished usually in the 2", $2\frac{1}{8}$ " and $2\frac{1}{4}$ " (diameter) sizes.

Used principally in 85-, 90- and 95-foot lengths.

Plymouth Manila Towline



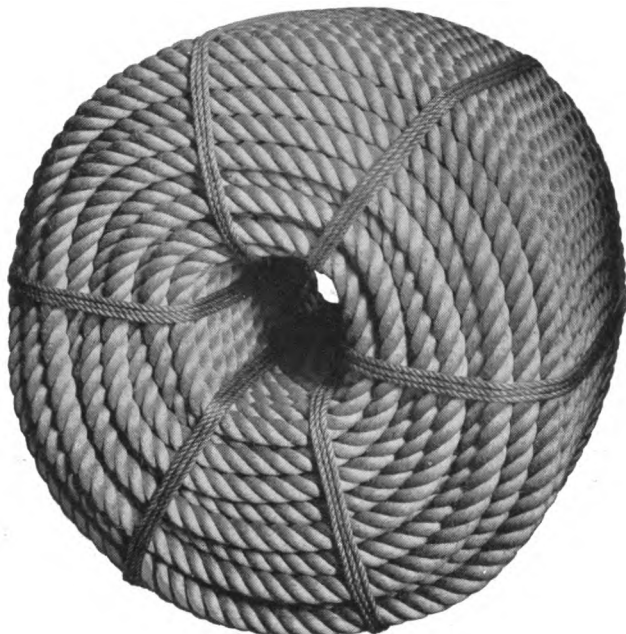
COIL PLYMOUTH MANILA TOWLINE THREE-STRAND, EIGHT INCHES CIRCUMFERENCE

FOR ocean, lake, canal, river and harbor towing. For this purpose we furnish, unless otherwise requested, Plymouth Manila Rope, three-strand, in different sizes as desired — usually from 5" circumference upwards — put up, unless otherwise specified, in standard coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet). Can be furnished in coils of 250 fathoms (1500 feet) in 12" circumference and in correspondingly greater lengths in smaller sizes.

See also Selected (or Bolt Rope) Manila (page 31).

See page 81 for splicing service.

Plymouth Manila Steamboat Line



COIL PLYMOUTH MANILA STEAMBOAT LINE, SIX INCHES
CIRCUMFERENCE, MEDIUM SOFT

FOR docking and tying up steamboats and steamships. Steamboat lines are often called “backing,” “spring,” “check,” “running” or “swinging” lines, depending on the different parts which they play in docking work. A three-strand rope. Made from same high quality of fiber as Plymouth Manila Rope.

Is also furnished made from selected stock.

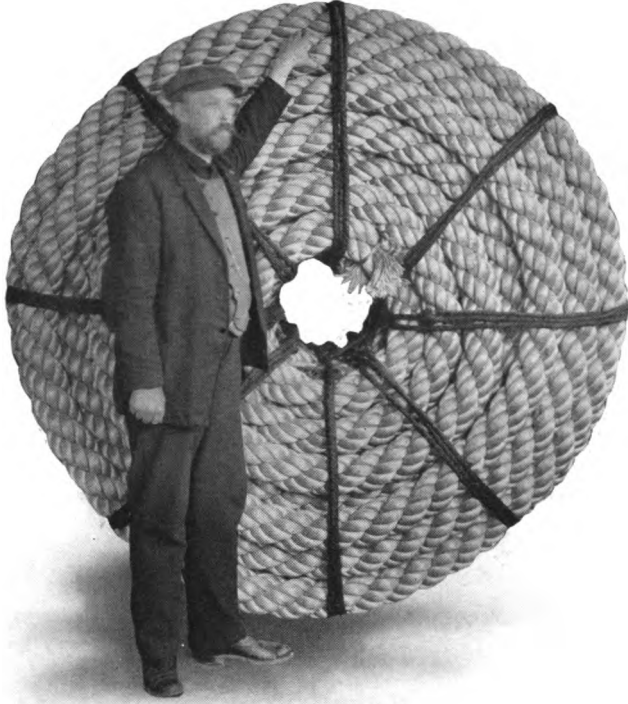
Laid medium soft to give it greater strength and greater ease in handling.

Furnished in various sizes as desired — usually from 5" circumference upwards.

Put up in standard coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet).

See also Selected (or Bolt Rope) Manila (page 31).

Plymouth Manila Wrecking Cable



COIL PLYMOUTH MANILA WRECKING CABLE, FIFTEEN INCHES CIRCUMFERENCE

FOR floating stranded vessels. A hawser-laid product with plenty of elasticity and minimum unlaying tendency—important requirements on this work. Made from selected fiber. Has extra strength and durability.

Size usually 15" circumference.

Standard length coils 200 fathoms (1200 feet).

Plymouth Manila Selected (or Bolt Rope) Stock

THESE names (the second, an outgrowth of the old-time sailmaker's Bolt Rope) are synonymous terms for a grade of Plymouth Cordage made from selected fiber. This grade is more durable and from 10 per cent to 15 per cent stronger, size for size, than our regular Manila cordage in corresponding types and lays. Sells at an advanced price, but is economical for exacting work.

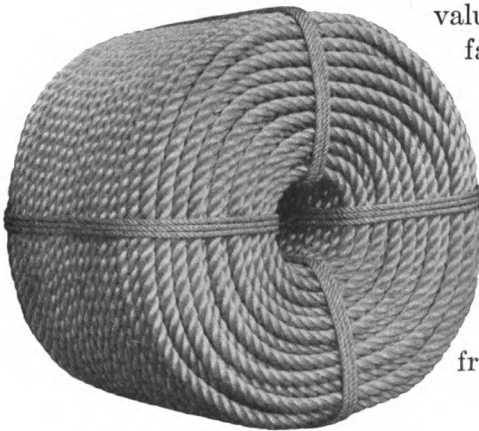
Can be furnished in all types (three-strand, four-strand, six-strand and hawser-laid), in any desired lay and in all the usual sizes. Furnished in the three-strand type and with soft lay unless otherwise requested. Furnished for sailmaker's work in an extra soft lay.

Recommended (provided specially prepared goods like Transmission Rope or Best Fall are not necessary) on work involving particularly severe conditions or the risk of human life.

Especially valuable in the marine field for seine, purse and anchor lines, life-saving lines, reefing points, sailmaking, towing, wrecking and docking. Also

valuable for hoists and falls, as for example, painters' falls, and for launching, haulage and switch ropes.

Different types can be furnished in same lengths as when made from regular stock.



COIL THREE-INCH CIRCUMFERENCE PLYMOUTH MANILA
BOLT ROPE

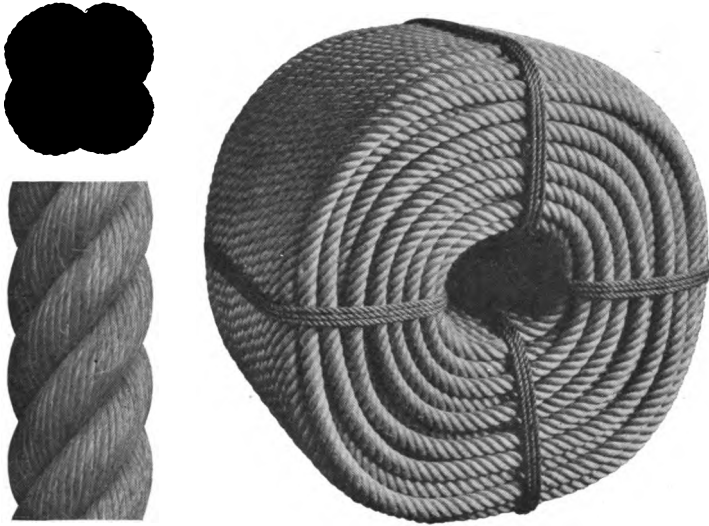
Plymouth Manila Selected (or Bolt Rope) Stock — (Continued)



**Plymouth Manila Bolt Rope
Sailmaker's Lay**

CIRCUMFERENCE	WEIGHT PER FOOT IN POUNDS	LENGTH OF COIL IN FEET	WEIGHT OF COIL IN POUNDS
1 1/4"	.053	1200	64
1 1/2"	.072	1200	87
1 3/4"	.088	1200	106
2"	.112	1200	134
2 1/4"	.135	1200	162
2 1/2"	.168	1200	202
2 3/4"	.200	1200	240
3"	.240	1200	288
3 1/4"	.276	1200	331
3 1/2"	.312	1200	374
3 3/4"	.365	1200	438
4"	.410	1200	491
4 1/4"	.465	1200	558
4 1/2"	.532	1200	639
4 3/4"	.604	1200	725
5"	.670	1200	804
5 1/2"	.821	1200	986
6"	.975	1200	1170

Plymouth Manila Best Fall



SECTION, CROSS SECTION AND COIL PLYMOUTH MANILA BEST FALL, FOUR AND THREE-FOURTHS INCHES CIRCUMFERENCE. SECTION AND CROSS SECTION ONE-HALF ACTUAL SIZE

RECOMMENDED for severe hoisting work, such as coal, cargo, quarry and grain-elevator falls, and for pile-driver hammer lines and other construction rigging subjected to severe strains.

A four-strand rope with heart.

Made from selected fiber. Contains tallow-treated yarns — both in each strand and throughout the heart. Therefore less susceptible to the action of water than ordinary Manila Rope.

Laid much harder than our ordinary four-strand product. Shows extra firmness under lateral pressure, as when in wraps on engine drum.

Offers extra resistance to internal and external friction and averages approximately 5 per cent stronger, size for size, than our regular Manila Rope.

Furnished commonly in sizes from $2\frac{1}{4}$ " to 6" circumference.

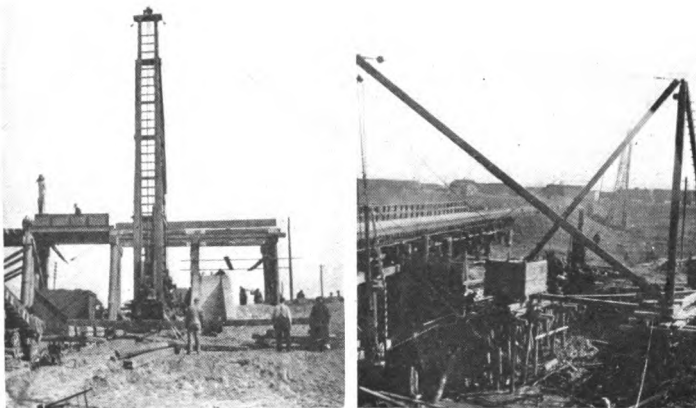
Put up in coils of any desired length up to 185 fathoms (1110 feet).

Plymouth Manila Best Fall

(Continued)

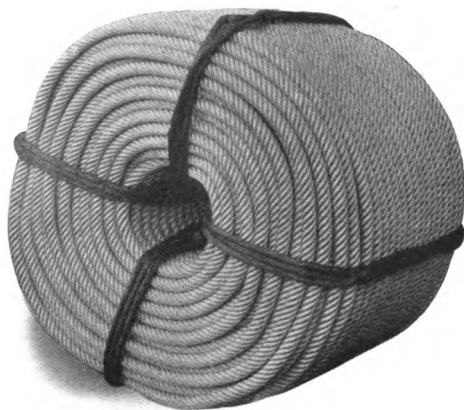
Length of Standard Coil 1110 Feet

SIZE CIRCUMFERENCE	APPROXIMATE DIAMETER	WEIGHT GROSS 100 FEET
1½"	½"	8.3
1¾"	9/16"	11.9
2"	5/8"	15
2¼"	¾"	18
2½"	13/16"	23
2¾"	7/8"	26.6
3"	1"	32.1
3¼"	1 1/16"	37.1
3½"	1 1/8"	42.8
3¾"	1 ¼"	50
4"	1 5/16"	57
4¼"	1 3/8"	63.5
4½"	1 ½"	72.2
5"	1 5/8"	87.6
5½"	1 ¾"	109
6"	2"	127
6½"	2 1/8"	148
7"	2 ¼"	171



PLYMOUTH MANILA BEST FALL IN USE FOR PILE-DRIVER HAMMER LINES
AND FOR HOISTING PURPOSES

Plymouth Manila Wheel Rope



SECTION, CROSS SECTION AND COIL PLYMOUTH MANILA
WHEEL ROPE, SIX-STRAND, TWO AND ONE-HALF
INCHES CIRCUMFERENCE. SECTION AND
CROSS SECTION ONE-HALF
ACTUAL SIZE

FOR marine steering gear. Recommended for yachts, tugs, barges, dredges, and for lake, river, harbor and coastwise steamers. Furnished both four-strand with heart and six-strand with heart.

Made from selected fiber. Is extra strong and durable. Contains tallow-treated yarns, both in the strands and in the heart. Less susceptible to the action of water than ordinary Manila Rope.

Four-strand type laid slightly harder than our regular four-strand product. Shows on work around drum the advantage of easier running, peculiar to four-strand rope.

Six-strand type laid considerably softer than four-strand. More flexible and better adapted for work on drums of small diameter. A particularly attractive-looking rope. Used mostly in sizes from $2\frac{1}{4}$ " to $3\frac{1}{2}$ " circumference. Both types furnished in any length desired up to 185 fathoms (1110 feet).

Plymouth Manila Whale Line



COIL, SECTION AND CROSS SECTION PLYMOUTH MANILA
WHALE LINE, TWO INCHES CIRCUMFERENCE. SECTION
AND CROSS SECTION ONE-HALF ACTUAL SIZE

THE harpoon line of the whaling industry. A three-strand rope. Made from selected fiber. Is extra strong and durable.

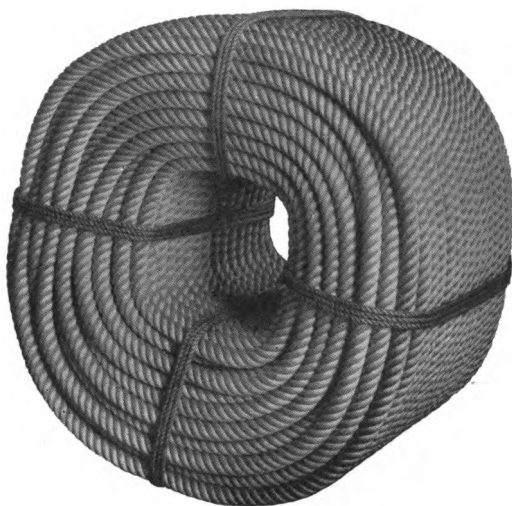
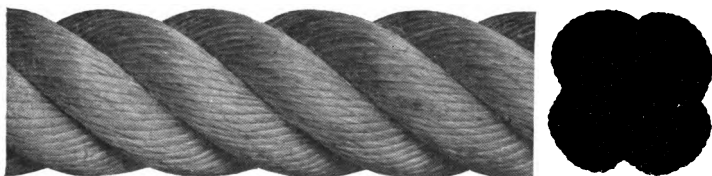
Laid extra soft. Easy to handle. Runs out without kinking.

Customary size for hand harpoon line, 2" circumference. Larger sizes—as high as 6½"—used when harpoon gun is employed.

Sizes from 4" to 4¾" circumference — sometimes known as "foregoers" — used to connect the harpoon and the main harpoon line when a gun is used.

Coil length of 2" circumference, 150 fathoms (900 feet). Other sizes usually furnished in coils of 120, 125 or 128 fathoms (720, 750 or 768 feet).

Plymouth Manila Transmission Rope



SECTION, CROSS SECTION AND COIL PLYMOUTH MANILA TRANSMISSION ROPE,
FOUR-STRAND, ONE AND ONE-HALF INCHES DIAMETER. SECTION
AND CROSS SECTION ONE-HALF ACTUAL SIZE

DESIGNED especially for power transmission drives. Three-strand type recommended in sizes up to 1" diameter because of splicing advantages; above 1", four-strand with heart. (This heart or core is a small three-strand rope made from special Italian Hemp which is softer and more absorbent than Manila and which forms a suitable bed for the strands to rest upon.)

Made from selected fiber, chosen particularly for its toughness.

Plymouth Manila Transmission Rope

(Continued)

Contains, both in strands and heart, yarns treated with special lubricant, designed to reduce to a minimum internal friction of fibers from constant bending. Plenty of lubricant in center of rope where most needed.

Both three- and four-strand much harder laid than our regular three- and four-strand ropes respectively.

Built to meet the very severe conditions of surface wear encountered in rope driving.

Does not call for any surface dressing when drive is properly designed.

Put up, unless otherwise specified, in coils of 1200 feet. Can be furnished in any length likely to be desired.

See page 81 for splicing service.

Approximate weights per hundred feet are as given below.

**Approximate Weight of Plymouth Manila Transmission Rope
(four-strand) Per Hundred Feet**

SIZE CIR.	APPROX. DIAMETER	WEIGHT GROSS 100 FT.	SIZE CIR.	APPROX. DIAMETER	WEIGHT GROSS 100 FT.
1½"	½"	9.5	3¾"	1¼"	53
1¾"	9⁄16"	12.5	4"	1⅝"	60
2"	5⁄8"	16	4¼"	1⅜"	65
2¼"	¾"	18.5	4½"	1½"	73.5
2½"	13⁄16"	24	4¾"	1⅞"	81.6
2¾"	7⁄8"	28.5	5"	1⅝"	88.4
3"	1"	33	5½"	1¾"	105
3¼"	1⅛"	40	5⅝"	1⅞"	118
3½"	1⅝"	45	6"	2"	125

Special literature on rope drives or any particular information upon the subject furnished upon request.

Plymouth Manila Hay Rope



FIFTY-POUND COIL TWO-THREAD, MEDIUM,
PLYMOUTH MANILA HAY ROPE

FOR tying baled and bundled goods; for example, bales and rolls of paper. Comes in two forms: plain, *i. e.*, with the threads put together with a left-hand twist; second, corded, *i. e.*, with the threads put together with a left-hand twist

after each has first received an extra right-hand twisting. Corded form is the more firmly twisted and will keep from unraveling the better of the two.

Made from the same excellent quality of fiber as our regular Manila Rope. Maximum yardage and ample strength for severe requirements.

Can be furnished both oiled and unoiled.

Sizes in plain form: 2-thread, regular, large, medium, fine and extra fine; 3-thread, regular, large, medium and fine; 4-thread, regular. In corded form: 2-thread, regular, fine. and extra fine.

Put up in single-end form — *i. e.*, a single, continuous length.

Furnished usually in 50-pound coils, with paper tubes if desired for use on coil holders; or in reels of 50 pounds.



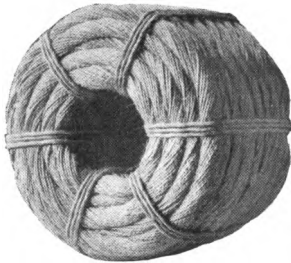
FIFTY-POUND REEL TWO-THREAD, FINE,
PLYMOUTH MANILA HAY ROPE

Plymouth Manila Hide Rope

FOR tying baled and bundled goods — particularly hides and finished leather. Comes in both plain and corded forms (see page 39). Corded form will keep from unraveling the better of the two.

Made from same excellent quality of fiber as our regular Manila Rope. Maximum yardage and ample strength for severe requirements.

Can be furnished both oiled and unoled.



ONE-HUNDRED-POUND COIL
TWO-THREAD, REGULAR,
PLYMOUTH MANILA
HIDE ROPE

SIZES IN PLAIN FORM		NUMBER THREADS TO STRAND
2-thread	regular	42
2- "	large	32
2- "	medium	100
2- "	fine	100
2- "	extra fine	100
3- "	regular	26
3- "	large	19
3- "	medium	30
3- "	fine	42
4- "	regular	21

SIZES IN CORDED FORM		NUMBER THREADS TO STRAND
2-thread	regular	50
2- "	fine	60
2- "	extra fine	80

Two-thread medium and fine often known as Fish Twine.

Put up in many-end form — *i. e.*, with many lengths twisted loosely into strand shape.

Furnished in 100- and 200-pound coils.

Plymouth Manila Spunyarn



TEN-POUND COIL TWO-THREAD PLYMOUTH MANILA SPUNYARN

WHILE Manila Spunyarn is used to some extent for tying baled or bundled goods, its original use was for bending or seizing sails to the mast hoops of a vessel. Made from the same excellent quality of fiber as our regular Manila Rope. Maximum yardage and ample strength for severe requirements.

Sometimes furnished tarred. Always furnished oiled. Sizes, 2-thread and 3-thread.

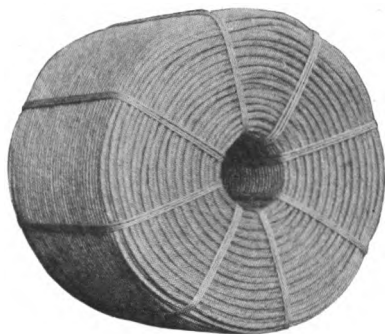
A single-end product — *i. e.*, put up in a single, continuous length.

Usually furnished in 5- and 10-pound coils.

Manila Spunyarn

SIZE	AVERAGE YARDAGE	AVERAGE TENSILE STRENGTH
2-thread common	135 feet per pound	463 lbs.
2- " medium	150 " " "	400 "
3- " common	82 " " "	630 "
3- " medium	100 " " "	570 "

Plymouth Manila Bale Rope



SECTION — ACTUAL SIZE — AND ONE-HUNDRED-POUND COIL SEVEN-THREAD,
FIVE-SIXTEENTHS INCH DIAMETER, PLYMOUTH MANILA BALE ROPE

FOR tying baled and bundled goods — particularly finished cloth. Comes in plain form only (see page 39). Made from the same excellent quality of fiber as our regular Manila Rope. Maximum yardage and ample strength for severe requirements.

Can be furnished both oiled and unoiled.

Sizes, 5-thread to 9-thread.

Put up in single-end form—*i. e.*, a single, continuous length.

Furnished usually in 100-pound coils.

Plymouth Manila Lariat Rope



SECTION — ACTUAL SIZE — PLYMOUTH MANILA LARIAT ROPE, THREE-STRAND,
SEVEN-SIXTEENTHS INCH DIAMETER



COIL PLYMOUTH MANILA LARIAT ROPE, THREE-STRAND,
SEVEN-SIXTEENTHS INCH DIAMETER

FOR use in roping cattle, and for trick roping. Furnished both three-strand and four-strand (without heart). Made from same quality of fiber as our regular Manila Rope.

Laid extra hard to give it firmness necessary for accurate roping.

Customary sizes, $\frac{3}{8}$ " and $\frac{7}{16}$ " diameter.

Put up in coils of 1200 feet.

(See also Plymouth Manila Yacht Lariat, page 44.)

Plymouth Manila Yacht Lariat Rope



TWELVE-HUNDRED-FOOT COIL
PLYMOUTH MANILA YACHT
LARIAT ROPE, THREE-STRAND,
SEVEN-SIXTEENTHS INCH
DIAMETER

FOR use in roping cattle and for trick roping. Furnished both three-strand and four-strand (without heart). Made from the finest grade of Manila fiber grown. Has a fine, silky appearance and very great strength and durability.

Laid extra hard to give it the firmness necessary for accurate roping.

Sometimes referred to as Silk Lariat.

Customary sizes $\frac{3}{8}$ " and $\frac{7}{16}$ " diameter.

Put up in coils of 1200 feet.



SECTION AND CROSS SECTION — ACTUAL SIZE —
PLYMOUTH MANILA YACHT LARIAT ROPE,
THREE-STRAND, SEVEN-SIXTEENTHS
INCH DIAMETER



SECTION AND CROSS SECTION — ACTUAL SIZE —
PLYMOUTH MANILA YACHT LARIAT ROPE,
FOUR-STRAND, SEVEN-SIXTEENTHS
INCH DIAMETER



Plymouth Manila Yacht Rope



SECTION — ONE-HALF ACTUAL SIZE — AND COIL PLYMOUTH MANILA YACHT ROPE,
FOUR-STRAND, THREE-FOURTHS INCH DIAMETER

THIS is designed for the running rigging of pleasure yachts and other small craft, and is probably more widely used for that purpose than any other rope on the market.

It is furnished either three-, four-, or six-strand, the last type being regularly made with a heart, and the four-strand rope having it if desired, in the larger sizes.

Made from the finest grade of Manila fiber grown and treated with the greatest care in curing, giving much greater resistance to deterioration and abrasive wear.

The lay is medium soft, insuring easy handling.

Standard coils, both three- and four-strand, measure 200 fathoms (1200 feet). Standard coils of six-strand measure $166\frac{2}{3}$ fathoms (1000 feet).

Plymouth Manila Lobster Twine

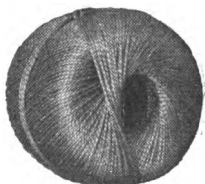


LOBSTERMEN GETTING TRAPS READY FOR SUMMER FISHING SEASON

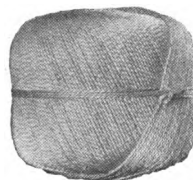
FOR heading lobster pots. A two-thread corded product — *i. e.*, consisting of two yarns put together with a left-hand twist after each has first received an extra right-hand twist. Made from specially selected fiber. Has the necessary durability to remain serviceable under water for months at a time.

Usually furnished untarred. Can be furnished tarred if desired.

Put up in 5-pound balls — 20 balls to the bale.



FIVE-POUND BALL PLYMOUTH
MANILA LOBSTER TWINE,
TARRED



FIVE-POUND BALL PLYMOUTH
MANILA LOBSTER TWINE,
UNTARRED

Plymouth Manila Trawl Line



SECTION — ACTUAL SIZE — AND COIL SIX-THREAD
PLYMOUTH MANILA TRAWL LINE

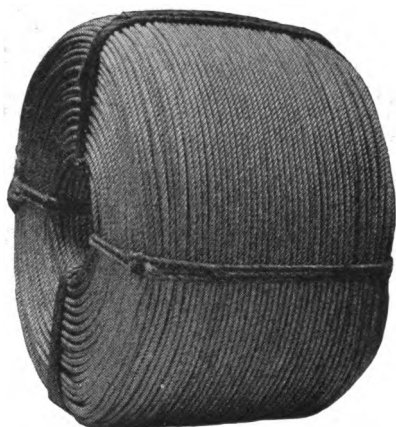
USED in the domestic cod, hake, haddock and skate fisheries as a supporting line for the hook lines. A 6-thread rope. Made from specially selected fiber to give it very great strength and durability. Usually furnished untarred. Can be furnished tarred if desired.

Regular lay.

Standard coils measure 200 fathoms (1200 feet).



Plymouth Manila Yacht Torpedo Line



THIRTY-FIVE-HUNDRED-FOOT COIL AND SECTION ONE-FOURTH
INCH DIAMETER, FOUR-STRAND, PLYMOUTH MANILA YACHT
TORPEDO LINE, LIGHTLY TARRED — SECTION
ACTUAL SIZE

FOR lowering charges of explosives in shooting oil wells. Furnished either three-strand or four-strand as desired. Made from specially selected fiber. Is extraordinarily strong and dependable.

Is lightly tarred to make it resist the action of water more effectively.

Harder laid than regular three- and four-strand rope.

Most common size $\frac{1}{4}$ " diameter.

Can be furnished in coils free from splice for wells of any depth.

Plymouth Sisal Rope



TWO-HUNDRED-FATHOM COIL THREE-STRAND PLYMOUTH SISAL ROPE,
THREE INCHES CIRCUMFERENCE

FOR work on which buyers wish a lower-priced cordage than strictly high-grade Manila. Somewhat less flexible than Plymouth Manila Rope. About 67 per cent as strong, size for size, and somewhat more easily affected by moisture. Furnished on all orders which specify simply "Sisal." (If you want goods of special type or lay, please say so; if in doubt, please state the work for which the rope is wanted.) Almost always used in the three-strand form. Made from best quality pure white Sisal.

The lay is our "regular" lay — soft enough for easy handling and splicing, yet firm enough to preserve the rope's shape.

Put up in standard coils of 200 fathoms (1200 feet) and 100 fathoms (600 feet), except 6-, 9- and 12-thread, which are put up in coils of 50 and 25 pounds. Small sizes can be furnished on reels of 25 and 50 pounds if preferred.

The $\frac{1}{4}$ " diameter size is often furnished hard-laid, uncoiled and in 100-pound coils for tying bales of finished cloth, and in such cases is usually known as rope-laid or hard-laid Bale Rope.

Plymouth Sisal Clothesline



MADE from best quality pure white Sisal. A good, serviceable line. Put up in unit hanks of 50 feet each, attractively labeled.

Hanks furnished in lots of four, connected — permitting the sale of 50-, 100-, 150- or 200-foot lengths as desired.

SIZES AND AVERAGE WEIGHT

6-thread ($\frac{1}{4}$ " diam.)	10½ lbs. per dozen hanks
6-thread fine ($\frac{3}{16}$ " diam.)	8½ lbs. per dozen hanks
3-thread laid ($\frac{3}{16}$ " diam.)	6½ lbs. per dozen hanks

Shipped, a dozen hanks to a bundle, in strong cartons holding one-half gross or six dozen hanks each. Cartons attractively labeled for shelf display.

Plymouth Sisal Halter Rope

DESIGNED to meet the special requirements of halter manufacturers where a somewhat less expensive product than Manila is desired. Comes in both the three-strand and four-strand types. Made from best quality pure white Sisal.

Can be had both oiled and unoled.

Made any lay to suit conditions and demands of the trade.

Furnished usually in sizes from $\frac{3}{8}$ " to $\frac{3}{4}$ " diameter.

Put up in standard coils of 1200 feet and half coils of 600 feet.



SECTION — ACTUAL SIZE — AND COIL THREE-STRAND PLYMOUTH SISAL
HALTER ROPE, SEVEN-SIXTEENTHS INCH DIAMETER

Plymouth Sisal Raft Rope



SECTION — ACTUAL SIZE — AND COIL SIX-THREAD
PLYMOUTH SISAL RAFT ROPE, SOFT-LAID

FOR binding logs together while they are being floated to mill. A three-strand rope. Made from best quality pure white Sisal.

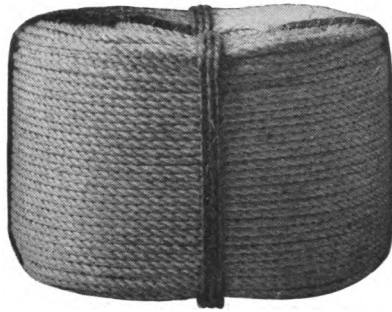
Laid soft — handles very easily.

Furnished principally in 6- and 9-thread sizes.

Standard length of 6-thread 1800 ft. coils.

“ “ “ 9-thread 1200 “ “

Plymouth Sisal Tent Rope



SECTION — ACTUAL SIZE — AND COIL SIX-THREAD PLYMOUTH
SISAL TENT ROPE, EXTRA SOFT-LAID

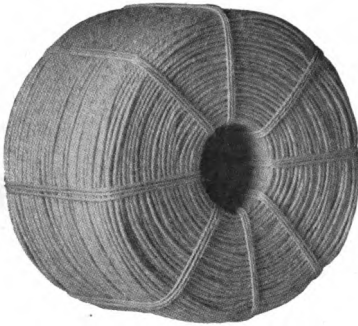
OCCASIONALLY used in place of Manila to reinforce the seams and edges of tent canvases, and in the smaller sizes for guys and to secure the flies of the tent. A three-strand rope. Made from best quality pure white Sisal.

Laid extra soft — can be opened up very easily for sewing.

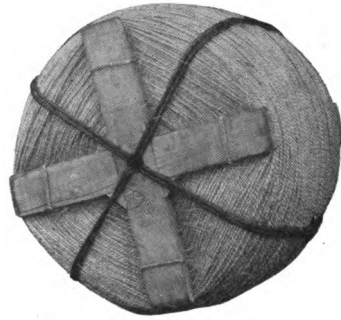
Furnished principally in sizes from 6-thread to 24-thread.

Put up in coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet).

Plymouth Sisal Hay Rope



FIFTY-POUND COIL THREE-THREAD, MEDIUM,
PLYMOUTH SISAL HAY ROPE



FIFTY-POUND REEL TWO-THREAD, FINE-LAID,
PLYMOUTH SISAL PAPER CORD

FOR tying baled and bundled goods (such as bales and rolls of paper), and for other similar work. Comes in two forms: plain, *i. e.*, with the threads put together with a left-hand twist; second, corded, *i. e.*, with the threads put together with a left-hand twist after each has first received an extra right-hand twisting. Corded form is the most firmly twisted and keeps from unraveling the better of the two.

Made from best quality pure white Sisal. Strong enough for all ordinary requirements. A serviceable, economical product.

Can be furnished both oiled and unoiled.

Sizes in plain form: 2-thread, regular, large, medium, fine and extra fine; 3-thread, regular, large, medium and fine; 4-thread, regular. In corded form: 2-thread, regular, fine and extra fine.

Two-thread medium and 3-thread medium used by nursery trade in packing trees and shrubs for shipment.

Put up in single-end form — *i. e.*, a single, continuous length.

Furnished in 50-pound coils—with paper tubes if desired for use on coil holders; or in reels of 50 pounds.

Plymouth Sisal Hide Rope



ONE-HUNDRED-POUND
COIL TWO-THREAD,
FINE, PLYMOUTH SISAL
HIDE ROPE

FOR tying baled and bundled goods — particularly hides and finished leather. Comes in both plain and corded forms (see page 54). Corded form keeps from unraveling the better of the two. Made from best quality pure white Sisal. Strong enough for all ordinary requirements. A serviceable, economical product.

Can be furnished both oiled and unoled.

SIZES IN PLAIN FORM	NUMBER THREADS TO STRAND	SIZES IN CORDED FORM	NUMBER THREADS TO STRAND
2-thread regular	42	2-thread regular	50
2- " large	32	2- " fine	60
2- " medium	100	2- " extra fine	80
2- " fine	100		
2- " extra fine	100		
3- " regular	26		
3- " large	19		
3- " medium	30		
3- " fine	42		
4- " regular	21		

Put up in many-end form — *i. e.*, with many lengths twisted loosely into strand shape.

Two-thread medium and fine often known as Fish Twine. Two-thread fine and two-thread extra fine sometimes known as Banana Twine.

Furnished in 100- and 200-pound coils.

Plymouth Sisal Spunyarn

FOR tying baled and bundled goods. Made from best quality pure white Sisal. Strong enough for all ordinary requirements. A serviceable, economical product.

Sometimes furnished tarred.

Always furnished oiled.

Sizes, 2-thread and 3-thread.

A single-end product—*i. e.*, put up in a single, continuous length.

Usually furnished in 5- and 10-pound coils.



SECTION — ACTUAL SIZE — AND TEN-POUND COIL TWO-THREAD
PLYMOUTH SISAL SPUNYARN

Plymouth Sisal Bale Rope

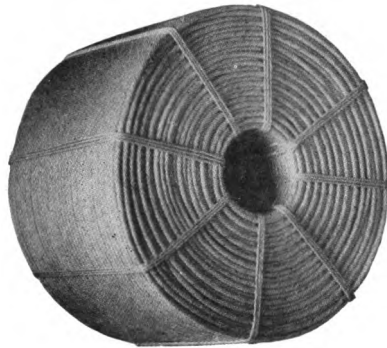
FOR tying baled and bundled goods — particularly finished cloth. Comes in plain form only (see page 54). Made from best quality pure white Sisal. Strong enough for all ordinary requirements. A very serviceable, economical product.

Can be furnished both oiled and unoiled.

Sizes, 5-thread to 9-thread.

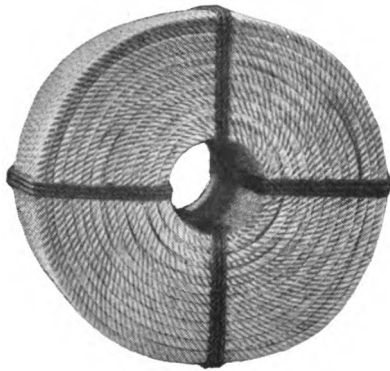
Put up in single-end form—*i. e.*, a single, continuous length.

Furnished usually in 100-pound coils.



ONE-HUNDRED-POUND COIL AND SECTION — ACTUAL SIZE —
SEVEN-THREAD, FIVE-SIXTEENTHS INCH DIAMETER
PLYMOUTH SISAL BALE ROPE

Plymouth Sisal Lariat Rope



SECTION — ACTUAL SIZE — AND COIL THREE-STRAND
PLYMOUTH SISAL LARIAT ROPE, SEVEN-
SIXTEENTHS INCH DIAMETER

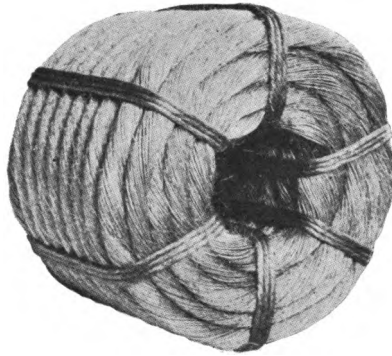
FOR use in roping cattle. Furnished both three-strand and four-strand (without heart). Made from best quality pure white Sisal.

Laid extra hard to give it firmness necessary for accurate roping.

Used mostly in the $\frac{3}{8}$ " and $\frac{7}{16}$ " diameter sizes.

Put up in coils of 1200 feet.

Plymouth Sisal Lath yarn



ONE-HUNDRED-POUND COIL, "C," 130-THREAD
PLYMOUTH SISAL LATHYARN, TARRED

FOR tying up laths, shingles, kindling wood, cooperage stock, woodenware and other lumber products, corn fodder and bags of grain and cement. Used for many other similar purposes, for example in the Christmas tree and nursery trade.

Made from best quality pure white Sisal.

Usually tarred to increase its weather-resisting power but can be furnished untarred if desired.

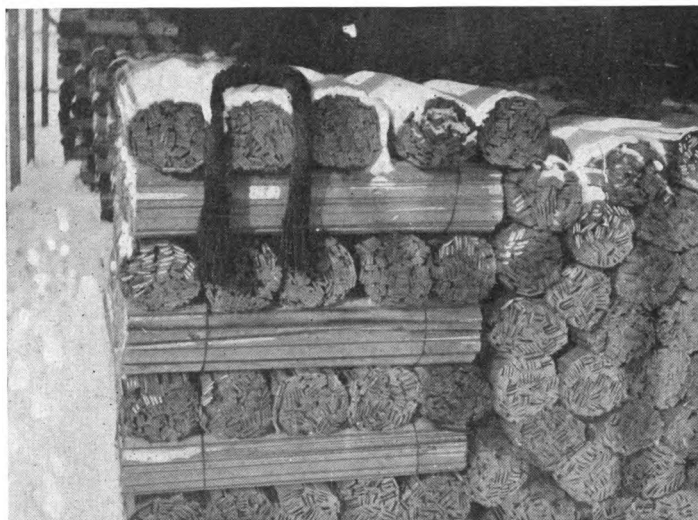
An extremely uniform, serviceable and economical yarn.

Is a many-end product, *i. e.*, put up by twisting a number of yarns together in strand shape.

Number of yarns to the strand, together with sizes and weights, are given on the following page.

Plymouth Sisal Lathyarn

(Continued)



	NO. YARNS TO STRAND	POUNDS TO COIL
Single "B" common	110	50, 100, 200
	25, 50	200, 400, 500
Single "C" (medium)	130	50, 100, 200
	25, 50	200, 400, 500
Single "CC" (kindling-wood yarn)	25	400
Single "D" (fine)	100, 200	50, 100, 200
	25, 50	200, 400, 500
Single "DD" (extra fine)	100	50, 100, 200
Double (corded)	50	100
Fine double (corded)	60	100
Two-thread	42	100
Two-thread fine	100	100

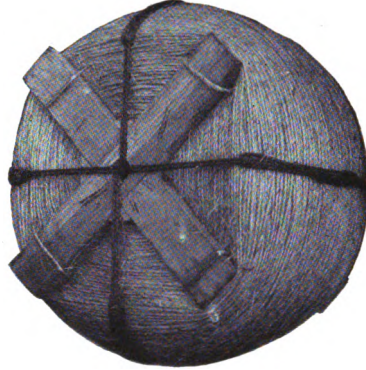
The "two-thread" and "two-thread fine" in the untarred form are identical with our two-thread and two-thread fine Sisal Hide Rope, plain form (see page 55). The "double (corded)" and "fine double (corded)," in the untarred form are identical with our two-thread and two-thread fine Sisal Hide Rope, corded (see page 55).

One-thread untarred sometimes known as Ring Yarn.

Plymouth Sisal Shingleyarn



ONE-HUNDRED-POUND COIL, "C," PLYMOUTH
SISAL SHINGLEYARN, TARRED



FIFTY-POUND REEL, "B," PLYMOUTH SISAL
SHINGLEYARN, UNTARRED

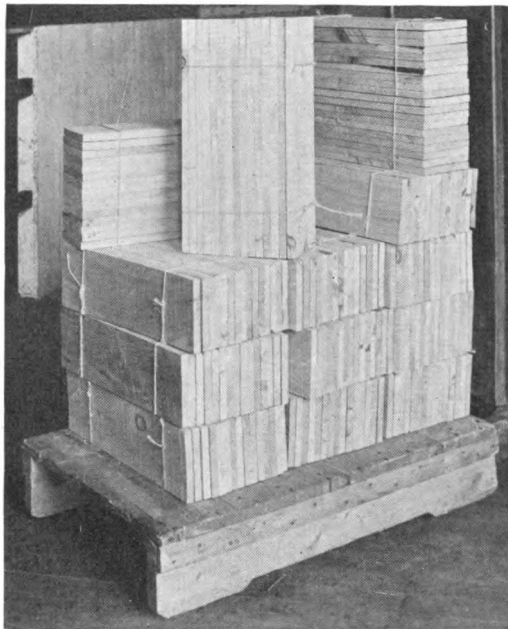
HAS the same general uses as our Sisal Lathyarn, is identical with it in stock and comes in the same sizes, namely: single "B" (common); single "C" (medium); single "CC" (kindling-wood yarn); single "D" (fine); single "DD" (extra fine); double (corded); fine double (corded); two-thread; two-thread fine.



ONE-HUNDRED-POUND BALE AND FIVE-POUND BALLS, "C," PLYMOUTH
SISAL SHINGLEYARN, UNTARRED

Plymouth Sisal Shingleyarn

(Continued)



BOX SHOOKS BUNDLED WITH PLYMOUTH YARNS

Usually tarred to give greater weather-resisting power, but can be furnished untarred if desired.

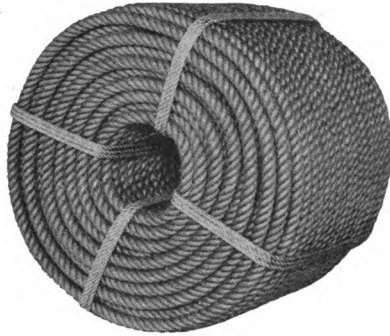
The "two-thread," "two-thread fine," "double (corded)" and "fine double (corded)" sizes in the untarred form are identical with the similarly named sizes and varieties of our Sisal Hay Rope.

One-thread untarred sometimes known as Ring Yarn.

A single-end product — *i. e.*, furnished in a single, continuous length.

Put up in 50-pound coils (with paper tubes if desired); on 50-pound reels; in 5-pound balls — packed 10 and 20 to the bale; and in 10-pound balls.

Plymouth Hemp Rope



ONE-HUNDRED-AND-THIRTY-FATHOM COIL PLYMOUTH HEMP ROPE,
THREE AND ONE-HALF INCHES CIRCUMFERENCE,
FOUR-STRAND, WITHOUT HEART

RECOMMENDED in special cases where the need is particularly for a rope that will be soft on the hands or not susceptible to the action of water. Furnished both three- and four-strand (without heart up to $3\frac{3}{4}$ " circumference — with tarred Hemp heart in sizes from 4" circumference upwards). Made from Hemp of excellent quality.

Comes both tarred and untarred.

Lay, special as demanded by use for which rope is intended.

Untarred form used principally for hand-elevator ropes and gymnasium work.

Tarred form used mainly for special marine work. For ships' lanyards, unless otherwise requested, is furnished four-strand with hard lay.

Put up in coils of 130 fathoms (780 feet).

Plymouth Hemp Rope

(Continued)

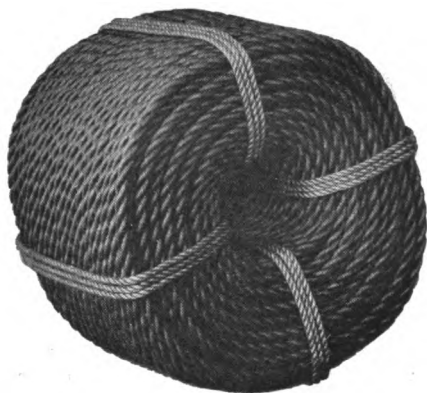


ONE-HUNDRED-AND-THIRTY-FATHOM COIL FOUR-STRAND PLYMOUTH
TARRED HEMP LANYARDS, THREE INCHES
CIRCUMFERENCE

BEFORE the advent of wire rope for standing rigging the four-strand tarred hemp rope was largely used for this purpose. Its use is now practically obsolete, and tarred hemp rope of over $4\frac{1}{2}$ inches in circumference is seldom used. The principal use for this kind of rope at present is for Lanyards and Manropes.

SIZE IN CIRCUMFERENCE	LENGTH OF COIL IN FATHOMS	WEIGHT PER FATHOM IN POUNDS	WEIGHT OF COIL IN POUNDS
$1\frac{1}{2}"$	130	.60	78
$1\frac{3}{4}"$	130	.75	97
2"	130	.98	127
$2\frac{1}{4}"$	130	1.25	163
$2\frac{1}{2}"$	130	1.52	197
$2\frac{3}{4}"$	130	1.81	235
3"	130	2.14	278
$3\frac{1}{4}"$	130	2.5	325
$3\frac{1}{2}"$	130	3.	390
$3\frac{3}{4}"$	130	3.5	455
4"	130	4.	520
$4\frac{1}{4}"$	130	4.5	585
$4\frac{1}{2}"$	130	5.5	715
$4\frac{3}{4}"$	130	6.	780
5"	130	6.6	860
$5\frac{1}{4}"$	130	7.1	922
$5\frac{1}{2}"$	130	7.8	1010
$5\frac{3}{4}"$	130	8.45	1100
6"	130	9.4	1222

Plymouth Hemp Bolt Rope



TWO-HUNDRED-FATHOM COIL PLYMOUTH TARRED HEMP BOLT
ROPE, TWO AND ONE-FOURTH INCHES
CIRCUMFERENCE

USED to line and reinforce the edges of sails and as purse lines in the fisheries. A three-strand product. Made from selected Hemp.

Usually furnished tarred.

Laid extra soft to allow of easy handling.

Put up in coils of 140 fathoms (840 feet) and 200 fathoms (1200 feet).

Tarred Hemp Bolt Rope

CIRCUMFERENCE	WEIGHT PER FOOT IN POUNDS	LENGTH OF COIL IN FEET	WEIGHT OF COIL IN POUNDS
1½"	.081	840	68
1¾"	.114	840	96
2"	.136	840	114
2¼"	.167	840	140
2½"	.208	840	175
2¾"	.250	840	210
3"	.300	840	250
3¼"	.345	840	290
3½"	.400	840	335
3¾"	.470	840	395
4"	.543	840	456

Plymouth Hemp Marline



TWENTY-FIVE-POUND COIL PLYMOUTH TARRED HEMP
MARLINE, TWO-THREAD, LEFT-LAID

USED, like Hemp Spun yarn, for seizing, whipping and filling work — especially the finer class of this work — and as a covering for the strands of a certain class of wire rope.

A corded product — *i. e.*, consisting of threads which are first given an extra amount of twist, and then put together with an opposite twist.

Made from selected Hemp.

Usually furnished tarred.

Size: 2-thread.

Comes single-end (see page 62).

Put up in $\frac{1}{2}$ -, $\frac{3}{4}$ - and 1-pound balls and in 5-, 10-, 25- and 50-pound coils. The 5- and 10-pound coils are packed in bundles of 5 each.

Marline, Common.	222 ft. to the pound	} Order by weight.
Marline, Medium.	360 ft. to the pound	
Marline, Yacht.	520 ft. to the pound	

Plymouth Hemp Houseline



TWENTY-FIVE-POUND COIL THREE-THREAD PLYMOUTH TARRED
HEMP HOUSELINE, LEFT-LAID

USED aboard ship for same purpose as Marline, and on land for the suspension of overhead telephone cables, etc. A corded product (see page 54). Made from selected Hemp.

Usually furnished tarred.

Three-thread, left-laid.

Comes both single-end (see page 54) and many-end (see page 55). Single-end variety put up in 5-, 10-, 25- and 50-pound coils or in 5- to 8-pound balls; many-end variety in 125-pound coils, 50 yarns to the strand.

160 feet to the pound. Order by weight.

Plymouth Hemp Roundline and Hambroline



TWENTY-FIVE-POUND COIL THREE-THREAD
PLYMOUTH TARRED HEMP ROUNDLINE,
LEFT-LAID



TWENTY-FIVE-POUND COIL THREE-THREAD
PLYMOUTH TARRED HEMP HAMBROLINE,
RIGHT-LAID

ROUNDLINE is used for same general purposes as Marline, Houseline and Hambroline, and is identical in stock, number of threads, size of threads, strength, type of construction and manner of packing with the last named. Left-laid.

92 feet to the pound. Order by weight.

HAMBROLINE is a cord of three yarns approximately the same size and yardage as Roundline and is used for the same purposes. It differs from Roundline by being right-laid.

92 feet to the pound. Order by weight.

Plymouth Hemp Spunyarn

USED for filling in between the strands of ropes, for whipping the ends of ropes and for seizing ropes. Construction is plain — *i. e.*, consisting of threads simply put together with a twist opposite to that in the threads themselves. Made from Hemp of excellent quality.

Usually furnished tarred.

Sizes: 2-, 3-, 4-, 5- and 6-thread. Last two sometimes known as “filling.”

Is a single-end product — *i. e.*, put up in one continuous length.

Furnished in 5-, 10-, 25- and 50-pound coils. The 5- and 10-pound coils are packed in bundles of 5 each.



TEN-POUND COIL THREE-YARN PLYMOUTH
TARRED HEMP SPUNYARN

2-yarn Spunyarn. Approximate yardage 93 ft. to the pound } Order by
3-yarn Spunyarn. Approximate yardage 77 ft. to the pound } weight.

Plymouth Hemp Seizing or Wormline (Interchangeable Terms)



**TEN-POUND COIL SIX-THREAD PLYMOUTH TARRED
HEMP SEIZING OR WORMLINE**

USED for filling in between the strands of large ropes,
for whipping splices and for other similar work.
Made from selected Hemp.

Usually furnished tarred.

Sizes range from 6-thread to 12-thread.

Put up in 5-, 10- and 25-pound coils.

Size 6-thread.	Approximate yardage 58 ft. to the pound	} Order by weight.
Size 9-thread.	Approximate yardage 40 ft. to the pound	
Size 12-thread.	Approximate yardage 29 ft. to the pound	

Plymouth Hemp Ratline



TWO-HUNDRED-FATHOM COIL FIFTEEN-THREAD
PLYMOUTH TARR'D HEMP RATLINE

USED to some extent for the ratlines (or cross ropes) on ships' shrouds, but principally for heaving lines, in docking and other similar operations. A three-strand rope. Made from Hemp of excellent quality.

Usually furnished tarred.

Regular lay.

Sizes run from 6-thread to 24-thread.

Coils measure 200 fathoms (1200 feet).

SIZE	APPROXIMATE CIRCUMFERENCE	LENGTH OF COIL IN FEET	WEIGHT OF COIL IN POUNDS
6-thread	$\frac{3}{4}$ "	1200	36
9- "	$1\frac{1}{8}$ "	1200	50
12- "	$1\frac{1}{8}$ "	1200	70
15- "	$1\frac{1}{4}$ "	1200	90
18- "	$1\frac{3}{8}$ "	1200	106
21- "	$1\frac{1}{2}$ "	1200	120
24- "	$1\frac{5}{8}$ "	1200	140

NOTE: Ratline is designated by the number of threads rather than by circumference or diameter measurements, namely, 6-thread, 12-thread, 18-thread, etc.

Plymouth Hemp Deep-Sea and Hand Lead Lines



SIXTY-FATHOM HANK PLYMOUTH HEMP DEEP-SEA LINES, THREE-EIGHTHS
INCH DIAMETER, PLAIN-LAID



TWO-HUNDRED-FATHOM COIL PLYMOUTH HEMP
HAND LEAD LINES, FIVE-SIXTEENTHS
INCH DIAMETER, PLAIN-LAID

USED for sounding at sea and for signal halyards. Can be furnished either three-strand, regular lay, or in hawser-laid type (three right-hand ropes laid together left-hand). Made from selected Hemp.

Always furnished untarred.

Are sized — *i. e.*, surface finished — with material designed to make them especially easy on the hands.

Common sizes are $\frac{5}{16}$ " , $\frac{3}{8}$ " and $\frac{7}{16}$ " diameter.

Put up in coils of 60 fathoms (360 feet), 100 fathoms (600 feet), 200 fathoms (1200 feet) and in hanks of convenient length as desired.

Plymouth Hemp Net Rope



TWO-HUNDRED-FATHOM COIL NINE-THREAD PLYMOUTH
TARRED HEMP NET ROPE, SOFT

USED for reinforcing the edges of fishing nets. A three-strand rope. Made from Hemp of excellent quality.

Usually furnished tarred.

Laid extra soft for easy handling.

Comes in both right-hand and left-hand lays. The two ordinarily used in combination to prevent fouling of net.

Put up in coils of 200 fathoms (1200 feet).

Plymouth Hemp Purse Line



ONE-HUNDRED-FATHOM COIL EIGHTEEN-THREAD PLYMOUTH TARRED
HEMP PURSE LINE, EXTRA SOFT

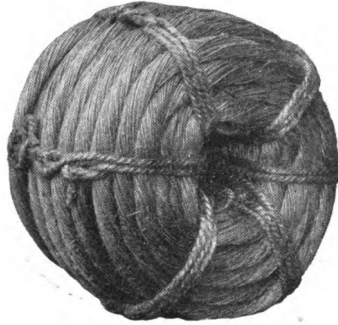
USED in connection with fishing nets. A right-laid, three-strand product. Made from selected Hemp.

Usually furnished tarred.

Laid extra soft.

Put up in coils of 100 fathoms (600 feet).

Plymouth Hemp Lathyarn



ONE-HUNDRED-POUND COIL 116-THREAD
PLYMOUTH TARRED HEMP LATHYARN

USED in weaving mats for the protection of outdoor hot beds and for packing the joints of pipes. Made from Hemp of excellent quality.

Usually furnished tarred to increase its weather-resisting qualities.

A many-end product — *i. e.*, put up by twisting a number of yarns together in strand shape.

Put up in 25- 50- and 100-pound coils, 116 yarns to the strand.

Plymouth New Zealand Rope



TWO-HUNDRED-FATHOM COIL THREE-STRAND
PLYMOUTH NEW ZEALAND ROPE, THREE AND
THREE-FOURTHS INCHES CIRCUMFERENCE

FOR buyers desiring a somewhat better rope than Plymouth Sisal but at a lower price per pound than strictly high-grade Manila.

Lies about midway between Manila and Sisal in strength. Suitable for many general uses — particularly where not exposed to water or weather conditions.

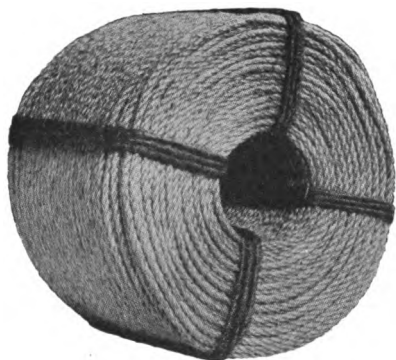
Almost always furnished three-strand.

Made from excellent grade of New Zealand fiber.

Regular lay — soft enough for easy splicing, yet firm enough to hold the rope's shape. Can be furnished in all the standard sizes.

Put up in coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet).

Plymouth New Zealand Raft Rope



SECTION — ACTUAL SIZE — AND COIL SIX-THREAD PLYMOUTH NEW ZEALAND
RAFT ROPE, SOFT-LAID

USED to bind logs together while they are being floated to mill. A three-strand rope. Made from same excellent quality of fiber as our regular New Zealand Rope.

Laid soft — handles very easily.

Furnished principally in 6- and 9-thread sizes.

The 6-thread is usually furnished in coils of 300 fathoms (1800 feet), the 9-thread in standard length coils of 200 fathoms (1200 feet) and 100 fathoms (600 feet).

Plymouth New Zealand Bull Rope



EIGHTY-FIVE-FOOT COIL PLYMOUTH NEW
ZEALAND BULL ROPE, TWO AND ONE-
EIGHTH INCHES DIAMETER

USED as a driving rope for the bull wheel in oil-well drilling outfits. A three-strand rope. Made from the same excellent quality of fiber as our regular New Zealand Rope and with a special lay which provides an extra good wearing surface.

Furnished usually in 2", $2\frac{1}{8}$ " and $2\frac{1}{4}$ " diameter sizes.

Used mainly in 85-, 90- and 95-foot lengths.

Plymouth Binder Twine



FIFTY-POUND BALE AND FIVE-POUND BALLS PLYMOUTH MANILA BINDER TWINE

USED for binding the sheaves of grain in harvesting.
Made in the following grades:

Pure Manila	650 feet to the pound
Premax	650 " " " "
Superior	600 " " " "
Extra	550 " " " "
Standard	500 " " " "
Pure Sisal	500 " " " "

Each grade of Plymouth Binder Twine is guaranteed to average full length to the pound, as indicated above. Each grade is even in size, uniform in strength, and is put up in compact, easy-running balls of about 5 pounds each.

Packed 10 balls to the bale.

Prices: Quoted upon request.

Suggestions on Ordering

BUYERS desiring Manila Cordage should use the word "Manila" rather than the word "Hemp," for while Manila, like certain other cordage fibers is often loosely spoken of as hemp, the only true hems are those fibers used in making the goods listed in this catalogue under the heading Hemp Cordage.

(Ordinarily, rope for marine uses is ordered by circumference sizes; rope for other uses by diameter sizes. It is better to state clearly whether sizes given are diameter or circumference.

To insure prompt handling of orders for tie yarns, the word "untarred" should always be used where goods without tar are wanted. Similarly the word "unoiled" should always be used where goods without oil are wanted. The word "dry," to indicate either of these qualities, is open to misunderstanding and is inadvisable.

If you want rope furnished tarred, left-laid, in coils with paper tubes or on reels, make such things clear in your order.

Three-strand, common-laid ropes for towing should be spoken of as towlines. The word "hawser" is open to confusion with the term "hawser-laid," which means an entirely different type of goods.

If you are ordering four-strand rope and wish it furnished without a heart, state this clearly. Except on Yacht and Lariat Ropes and on Tarred Hems up to and including $3\frac{3}{4}$ " circumference, all four-strand goods are furnished with a heart, unless otherwise requested.

If your needs are not already known to us, it is well to indicate what the goods will be used for, so that we may be sure to furnish those which are best suited.

Splicing and Other Special Service

TRANSMISSION ROPE SPLICING

Where desired, we can furnish to PLYMOUTH Transmission Rope customers, the services of a splicing expert, competent to take charge of a rope drive installation or adjustment job — including all splicing — and to give personal instruction in splicing to the customer's men.



TOWLINE AND SWITCH ROPE SPLICING

We are prepared to make eye splices in towlines and switch ropes before shipping goods to customers.

THIMBLES

For customers who wish thimbles spliced into towlines before shipment, we are prepared to do this work if thimbles will be furnished.

Our knowledge and experience, based on years of Rope manufacture, are at the service of our customers when special ropes are required.

The charges for any of these services are reasonable.

Approximate Measurements
Plymouth Manila Rope
Coils of 1200 Feet or 200 Fathoms
365.76 Metres

SIZE	COIL DIMENSIONS	CUBIC FEET
6thd. fine	8" × 11" × 11"	.56
6thd.	9" × 12" × 12"	.75
9thd.	10" × 14" × 14"	1.13
12thd.	11" × 15" × 15"	1.43
15thd.	12" × 16" × 16"	1.77
18thd.	13" × 17" × 17"	2.17
1½ in.	15" × 18" × 18"	2.81
1¾ "	15" × 21" × 21"	3.82
2 "	17" × 22" × 22"	4.76
2¼ "	17" × 26" × 26"	6.65
2½ "	19" × 25" × 25"	6.87
2¾ "	20" × 29" × 29"	9.73
3 "	22" × 30" × 30"	11.46
3¼ "	24" × 31" × 31"	13.34
3½ "	25" × 34" × 34"	16.72
3¾ "	25" × 35" × 35"	17.72
4 "	27" × 36" × 36"	20.25
4¼ "	27" × 37" × 37"	21.39
4½ "	29" × 38" × 38"	24.23
4¾ "	30" × 41" × 41"	29.18
5 "	30" × 43" × 43"	32.10
5¼ "	31" × 45" × 45"	36.32
5½ "	33" × 47" × 47"	42.18
5¾ "	32" × 48" × 48"	42.66
6 "	33" × 48" × 48"	44.
6½ "	33" × 53" × 53"	53.64
7 "	35" × 55" × 55"	61.27
7½ "	36" × 59" × 59"	72.52
8 "	37" × 61" × 61"	79.67
8½ "	48" × 59" × 59"	96.69
9 "	45" × 62" × 62"	100.10
9½ "	46" × 64" × 64"	109.03
10 "	46" × 67" × 67"	119.50

Approximate Measurements
Plymouth Manila Rope

Coils of 720 Feet or 120 Fathoms
219.46 Metres

SIZE	COIL DIMENSIONS	CUBIC INCHES	CUBIC FEET
6-thd. fine	8" × 10" × 10"	800	0.463
6- " ¾ in.	8" × 11" × 11"	968	0.560
9- " 1 "	9" × 12" × 12"	1296	0.750
12- " 1⅛ "	9" × 14" × 14"	1764	1.021
15- " 1¼ "	11" × 15" × 15"	2475	1.432
18- " 1⅜ "	11" × 16" × 16"	2816	1.630
1½ "	12" × 18" × 18"	3888	2.250
1¾ "	12" × 19" × 19"	4332	2.507
2 "	16" × 19" × 19"	5776	3.342
2¼ "	16" × 22" × 22"	7744	4.48
2½ "	17" × 23" × 23"	8993	5.204
2¾ "	18" × 24" × 24"	10368	6.000
3 "	18" × 26" × 26"	12168	7.042
3¼ "	21" × 28" × 28"	16464	9.526
3½ "	22" × 29" × 29"	18502	10.70
3¾ "	22" × 31" × 31"	21142	12.23
4 "	22" × 32" × 32"	22528	13.04
4¼ "	24" × 33" × 33"	26136	15.12
4½ "	25" × 35" × 35"	30625	17.73
4¾ "	26" × 37" × 37"	35594	20.60
5 "	26" × 38" × 38"	37544	21.72
5½ "	29" × 41" × 41"	48749	28.21
6 "	30" × 44" × 44"	58080	33.61
6½ "	31" × 46" × 46"	65596	37.96
7 "	32" × 48" × 48"	73728	42.66
7½ "	32" × 50" × 50"	80000	46.30
8 "	33" × 52" × 52"	89232	51.63
8½ "	34" × 53" × 53"	95506	55.27
9 "	35" × 55" × 55"	105875	61.27

Approximate Measurements
Plymouth Manila Rope

Coils of 675 Feet
205.74 Metres

SIZE	COIL DIMENSIONS	CUBIC INCHES	CUBIC FEET
1½ in.	12" × 17" × 17"	3468	2.011
1¾ "	13" × 18" × 18"	4212	2.437
2 "	14" × 20" × 20"	5600	3.241
2¼ "	15" × 21" × 21"	6615	3.830
2½ "	16" × 23" × 23"	8464	4.900
2¾ "	17" × 24" × 24"	9792	5.667
3 "	17" × 26" × 26"	11492	6.650
3¼ "	20" × 26" × 26"	13520	7.824
3½ "	21" × 28" × 28"	16464	9.527
3¾ "	22" × 29" × 29"	18502	10.70
4 "	23" × 31" × 31"	22103	12.80
4¼ "	23" × 33" × 33"	25047	14.50
4½ "	23" × 36" × 36"	29808	17.25
4¾ "	24" × 37" × 37"	32856	19.01
5 "	26" × 37" × 37"	35594	20.60
5¼ "	30" × 36" × 36"	38880	22.50
5½ "	30" × 37" × 37"	41070	23.80
5¾ "	33" × 37" × 37"	45177	26.15
6 "	33" × 40" × 40"	52800	30.56
6¼ "	29" × 44" × 44"	56144	32.49
6½ "	30" × 45" × 45"	60750	35.16
6¾ "	31" × 46" × 46"	65596	37.96
7 "	32" × 47" × 47"	70688	40.91
7½ "	33" × 48" × 48"	76032	44.00
8 "	36" × 48" × 48"	82944	48.00
8½ "	37" × 49" × 49"	88837	51.41
9 "	39" × 50" × 50"	97500	56.42

Use and Care of Rope

To Take Rope from the Coil

To remove rope from the coil it should be laid flat with the inside end of the rope nearest the floor. Bring this end up through the center of the coil. If the rope is properly reeled, the removing of the rope through the center of the coil will have a tendency to throw the twist out of the rope to a sufficient degree to prevent kinks. In taking rope from the outside of the coil turn is thrown into the rope, but in cutting off short pieces from the coil this method is satisfactory. However, for long lengths it would make trouble.

When in service the rope must not be continually re-coiled and taken out from the center of the coil in the same direction each time, for in this case too much of the "after-turn" would be thrown out of the rope. The "foreturn," or the twist in the strands, would then be out of balance and the strands would nub up, greatly reducing the length of service of the rope.

Use on Capstan and Windlass

The principle of the contrary turn in rope-making must be considered in the care of rope used on a capstan or windlass. If the rope is thrown on always in the same direction, the "afterturn" will be continually thrown out. The rope will be injured and operation delayed. When using rope on a double capstan or niggerhead, that is, a capstan on each end of shaft, each capstan having a fall, care must be taken that, with the capstan running and no strain on the rope, the turns left on the capstan do not chafe.

A rope held taut in service when dry should immediately be slacked off if it should become wet. If this is

Use and Care of Rope

not done, the contraction of the rope will either cause it to break or to damage the material to which it is attached.

Deterioration from Acid

Acid is very detrimental to the life of rope and dangerous to those using it. Acid damage often occurs in transportation. There may be a slight trace of acid on the floor of the freight car which would not ordinarily attract attention. This acid will sometimes be absorbed by the rope and it will fail in service, usually in many places, as each course in the coil comes in contact with the acid. Great care must be taken always, whether the rope is in use or in storage, to prevent any opportunity for acid contact.

Wet Rope

Although a new rope gives an increased breaking strain when wet, and although Manila hemp deteriorates very little, a rope put away wet and dirty will soon lose strength. After use the rope should be cleaned and dried, coiled in a loose coil. Small ropes and tackles should be hung up, large ropes coiled on gratings raised from the floor to insure circulation of air.

Rope Storage

A building or room where rope is stored must be dry and well ventilated. If rope is to be stored for a year or more, it is best to pile it on a grated platform. A building without heat, which is damp in winter and spring and poorly ventilated, is a bad place to keep rope. The storerooms of iron or steel ships are a good example of poor rope

Use and Care of Rope

storage. Rope will deteriorate rapidly under such conditions, and dry rot will develop. This is a subject which has received little attention, and there are no reliable data at hand in regard to the cause and development of dry rot in rope.

Rope on Shipboard

Halyards and sheets and all running rigging always under some strain and exposed to the drying effect of sun and air will dry out quickly. Care should be taken of the hauling part of the rope which is coiled on decks, and care should be taken in turning such ropes as boat falls end for end, as is oftentimes done, as the ends not under strain and not properly dried out are generally the poorest part of the rope.

Hawser and Mooring Lines

Hawser and mooring lines should be coiled in loose coils and hoisted above decks when there is time and opportunity. Hawsers in service should be coiled on a grating covered with a tarpaulin in bad weather, exposed to the sun and free circulation of air in good weather. This is the best treatment possible for a rope in service.

Summary

Human life often depends upon a rope in service, and at all times, especially now, a rope represents considerable value. A consideration of these facts should cause the necessary precautions to be taken, for they are but the exercise of simple care and economy.

Users and Uses of Cordage

with references to Products recommended for each

	PAGE		PAGE
ANCHOR LINE		BOLT ROPE	
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Sisal Bale Rope	57	BULL ROPE (Well Drilling)	
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Sisal Hide Rope	55	New Zealand Bull Rope	78
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Sisal Spunyarn	56	BUNDLING	
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		CANAL LINE	
		Manila Towline	28
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		Manila Best Fall	33
		Manila Bolt Rope	31
		Manila Rope	14

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with references to Products recommended for each

CAT HEAD LINE	PAGE	COTTON MILLS	PAGE
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CATTLE		Manila Rope	14
Manila Lariat Rope	43	Manila Bale Rope	42
Manila Yacht Lariat Rope	44	Sisal Bale Rope	57
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Manila Rope	14	Manila Lariat Rope	43
Manila Transmission Rope	37	Manila Yacht Lariat Rope	44
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Manila Rope	14	DRAYAGE	
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